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ABSTRACT

Children in elementary and secondary education in a Wisconsin school system were surveyed to ascertain whether the system had children with speech problems, to identify the nature and incidence of the speech problems, to establish any need for speech therapy services, and to assist in training student speech therapists in survey methods. A total of 1,767 children were interviewed by two-man teams of college students. Results were tabulated for the entire school district, as well as for each school. Results showed that 344 males, or 19.5% of the school population, and 343 females, or 19.4% of the school population had speech problems. Six percent of the children (111 students) were found to need speech therapy, while 578 other students were referred for additional testing. Speech problems were reported to be problems of articulation, voice, articulation-voice, fluency and language. Individual schools in the system were found to have basically the same patterns of results as found for the entire district. Need for speech therapy services in the system was reported to exist. It was thought that although the speech survey did have its limitations in its methodology, the survey did fulfill its original purposes. (CB)

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A SPEECH SURVEY OF THE PUBLIC SCHOOL POPULATION IN THE ELLSWORTH, WISCONSIN, SCHOOL DISTRICT

by

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and

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TABLE OF CONTENTS

CHAPTER PAGE

I. INTRODUCTION AND STATEMENT OF THE PROBLEM 1

- Introduction 1
  - Factors leading to the project proposal 2
  - The Ellsworth School System 2
- The Problem 5
  - Hypotheses to be tested 5
- Definitions of Terms Used 6

II. REVIEW OF LITERATURE 9

- Incidence of Speech Defectives 9
- Effects of Maturation 15
- Differences Between Males and Females in the Incidence of Speech Disorders 16
- Relationships of Environments to Speech Disorders . . . 17
- Intelligence and Speech Disorders 19
- Identification of the Speech Defective 21
- Identification of Speech Disorders in Ellsworth Schools 25

III. ORGANIZATION 32

- Methods and Procedures 32
- Schedule 32
- Materials 34
- Screening Procedures 35
- Analysis of Date 36

IV. DISCUSSION OF RESULTS 38

- Incidence of Speech Disorders 38

CHAPTER PAGE

Maturation Effects 40

Incidence for Special Education Units 41

Distribution of Speech Problems 41

Severity Ratings 42

Recommendations for Therapy 43

Comparison of Incidence 43

Distribution of Types of Speech Disorders 44

Articulation disorders 44

Articulation-voice disorders 46

Voice disorders 47

Fluency disorders 49

Severity Rating for Males and Females for Individual Grades 50

Incidence of Disorders for Individual Schools 50

V. CONCLUSIONS 56

BIBLIOGRAPHY 65

APPENDIX A. Tables I - XXXVII 73

APPENDIX B. Lists of Children with Speech Disorders 110

APPENDIX C. Check List of Types of Speech Disorders 162

APPENDIX D. Test Form for Oostendorp Study 163

APPENDIX E. Test Paragraphs and Test Forms 166

LIST OF TABLES

TABLE PAGE

I. Incidence of Males and Females with Speech Disorders in the Ellsworth Schools by Grades 73

II. Summary of the Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy by Grades 74

III. Summary of Distribution of Speech Disorders by Grades and Sex 75

IV. Incidence of Articulation Disorders by Grades and Sex 76

V. Incidence of Articulation-Voice Disorders by Grades and Sex 77

VI. Incidence of Voice Disorders by Grades and Sex 78

VII. Incidence of Fluency Disorders by Grades and Sex 79

VIII. Summary of Distribution of Severity Ratings by Grades and Sex 80

IX. Incidence of Males and Females with Speech Disorders by Schools 81

X. Summary and Incidence of the Various Speech Disorders by Schools 82

XI. Summary and Incidence of the Severity Ratings and Recommendations for Therapy by Schools 83

XII. Incidence of Males and Females with Speech Disorders in the Hillcrest Elementary School 84

XIII. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in the Hillcrest Elementary School 85

XIV. Distribution of Speech Disorders and Severity Ratings by Sex in Hillcrest Elementary School 86

XV. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in Hillcrest Elementary School by Teachers 87

TABLE PAGE

XVI. Incidence of Males and Females with Speech Disorders in Lindgren Elementary School 88

XVII. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in the Lindgren Elementary Schools 89

XVIII. Distribution of Speech Disorders and Severity Ratings by Sex in Lindgren Elementary School 90

XIX. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in Lindgren Elementary School by Teachers 91

XX. Incidence of Males and Females with Speech Disorders in Maiden Rock Elementary School 92

XXI. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in Maiden Rock Elementary School 93

XXII. Distribution of Speech Disorders and Severity Ratings by Sex in Maiden Rock Elementary School 94

XXIII. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in Maiden Rock Elementary School by Teachers 95

XXIV. Incidence of Males and Females with Speech Disorders in Prairie View Elementary School 96

XXV. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in Prairie View Elementary School 97

XXVI. Distribution of Speech Disorders and Severity Ratings by Sex in Prairie View Elementary School 98

XXVII. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in Prairie View Elementary School by Teachers 99

XXVIII. Incidence of Males and Females with Speech Disorders in Sunnyside Elementary School 100

XXIX. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in Sunnyside Elementary School 101

TABLE PAGE

XXX. Distribution of Speech Disorders and Severity Ratings by Sex in Sunnyside Elementary School 102

XXXI. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in Sunnyside Elementary School by Teachers 103

XXXII. Incidence of Males and Females with Speech Disorders in Ellsworth Junior High School 104

XXXIII. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in Ellsworth Junior High School 105

XXXIV. Distribution of Speech Disorders and Severity Ratings by Sex in Ellsworth Junior High School 106

XXXV. Incidence of Males and Females with Speech Disorders in Ellsworth Senior High School 107

XXXVI. Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy in Ellsworth Senior High School 108

XXXVII. Distribution of Speech Disorders and Severity Ratings by Sex in Ellsworth Senior High School 109

CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

The Speech and Hearing Clinic of the Department of Speech at Wisconsin State University-River Falls was established to provide training for therapists in speech pathology and audiology and to provide speech and hearing services for the adjacent areas. In 1961 when the Clinic program was expanded, no known speech services were available in Pierce and St. Croix Counties, with the exception of one public school therapist in River Falls and one in New Richmond, Wisconsin. Consequently, many schools and communities in the surrounding area were not receiving the services of a speech specialist.

As the availability of the services of the University Speech Clinic became known, referrals from nearby communities increased. These referrals were from numerous sources including public health nurse and other medical personnel, school administrators, teachers and parents.

A significant number of these referrals to the University Speech Clinic were from the Ellsworth area. However, the total number of referrals from the Ellsworth Schools in comparison with the total Ellsworth school population was limited. Some of the projected reasons for the few referrals included: (1) lack of uniform knowledge about the availability of the Clinic; (2) lack of trained personnel to identify speech disorders; (3) apathy toward speech correction; (4) transportation problems prohibiting travel to the University; (5) the possibility that all speech problems in the area were being referred.

The results of a questionnaire-survey conducted by Mrs. Elizabeth Oostendorp, a member of the Ellsworth School District teaching staff, did not support the last reason. Teachers in the Ellsworth school system were asked to identify the number of children with speech problems as well as the nature of the problems and to identify which children they would refer to a speech therapist if speech therapy services were available. Relatively few of the named individuals in the Oostendorp survey had been seen at the University Speech Clinic. The discrepancy between the known speech problems and the results of the Oostendorp survey was one of the motivating factors for this research project.

A second factor leading to the project proposal was related to demonstrating the need for speech therapy services within the Ellsworth school system. No study describing the nature of the speech patterns of children within the system had been made although some speech problems were known to exist. The number and nature of the problems had not been determined.

A third factor supporting the project was consistent with the University's Department of Speech philosophy of providing service for the area and of training potential speech therapists in school speech correction methods and procedures. Identifying children with speech problems is a significant aspect of the school speech therapists' duties and responsibilities.

THE ELLSWORTH SCHOOL SYSTEM

Several factors supported the choice of the Ellsworth schools for the speech survey. Apart from the University's speech program, Ellsworth had had no speech therapy services prior to the survey sponsored by the University. The school population of 2002 children represented a significant number for statistical analysis. In addition, the school population was centered in only seven locations, each center representing a significant group for statistical purposes.

Over 1000 students were enrolled in the five elementary schools and another 900 students attended the junior and senior high schools.[1] The largest elementary school, Hillcrest, is located in Ellsworth, Wisconsin, and had 338 students. The District's Central offices are also located at Hillcrest. The Senior High School had 451 students and is a block from Hillcrest while the Junior High School with 450 student is approximately three blocks from the Senior High School. These three schools, with the exception of Maiden Rock Elementary School, are the only schools located in a village or town.

The second largest elementary school is Prairie View, located between Ellsworth and Maiden Rock approximately 12 miles south of the Central office. Many of its 252 students are from the Wisconsin border communities of Bay City and Hager City.

Lindgren Elementary School is located between Ellsworth and Maiden Rock approximately six and one-half miles south of the Central office. The school enrollment of 187 included 11 in the Opportunity Room, which is a special education unit for the school district.

Sunnyside Elementary School with an enrollment of 175 is located approximately five and one-half miles east of Ellsworth, Wisconsin.

The smallest elementary school in the district is located in Maiden Rock, Wisconsin, approximately 25 miles southeast of Ellsworth. This school had an enrollment of 119 students.

Several other factors supported the choice of the Ellsworth school system for the speech survey. The composition of the district appeared significant. The Ellsworth District is one of the largest in area in Wisconsin and the investigators felt that it offered a wide range of socio-economic backgrounds. Another factor concerned the village of Ellsworth itself. Ellsworth, with a population of approximately 2000, is predominately a rural community center. The investigators believed that Ellsworth and the Ellsworth School District are probably typical of adjacent rural towns and school districts, and therefore the results of a survey in the Ellsworth school system would probably be indicative of speech needs in other nearby communities.

Early cooperation from the school administration further supported the selection of Ellsworth for a speech survey. In addition, the interest in speech prompting Mrs. Oostendorp to conduct her survey and the interest created following her report was additional motivation for working in the Ellsworth schools.

Lastly, the relatively close proximity of the school sytem to the University was significant for initiating a survey in the Ellsworth schools. Conflicts with University class schedules and responsibilities were reduced due to relatively limited time expended in driving to individual schools.

THE PROBLEM

The research project was designed for three purposes: (1) to define the speech needs of the Ellsworth school system; (2) to extend the services of the University to an adjoining community; and (3) to provide training experience for potential speech therapists. It was anticipated that the following questions would be answered by the survey:

1. What is the incidence of speech problems in the Ellsworth School District?
2. What is the nature of the speech problems?
3. Which children require the professional assistance of a speech therapist?
4. Can the services of a speech therapist be justified in terms of need?
5. How does Ellsworth compare with national norms for speech disorders?

The hypotheses to be tested in this study are:

1. At least 5% of the school age population in the Ellsworth School District have significant speech defects.
2. An additional 5% of the children have minor voice and speech problems.
3. There is an existing need in the Ellsworth School District for a speech therapist.

The investigators planned to conduct personal interviews with the school age population within the Ellsworth Public School System in order to assess the speech of the children. These interviews were scheduled for the Fall Quarter of the academic year 1964-1965.

For the purposes of this study, a speech disorder is defined as speech which "deviates so far from the speech of other people that it calls attention to itself, interferes with communication or causes its possessor to feel maladjusted."[2] Disorders of speech usually include the categories of articulation, time or rhythm, voice and symbolization or language.[3]

Articulation problems are concerned with the manner in which speech sounds are formed and used. Speech sounds may be omitted, added, substituted one for another, or distorted.

Disorders involving time or rhythm are concerned with the timing or flow of vocal utterance. Unusual interruptions or breaks in the flow or fluency of speech are frequently identified as stuttering or stammering.

Voice disorders are concerned with the production of the speech tones. Volume or loudness, vocal inflection, pitch, and various aspects of vocal quality such as breathiness, hoarseness, huskiness, and nasality are components of voice disorders.

Language disorders may range from the absence of speech to deficient development of verbal skills appropriate for a particular age. Language and symbolization problems are concerned with the formation of concepts, acquisition of vocabulary, structuring of ideas and the sequencing of meaningful speech.

An individual who has a speech disorder may have speech that deviates in one or more of these aspects. Furthermore, the speech may be inappropriate for the age or sex and thus call attention to one's speaking or interfere with one's efforts to communicate.

Additional information relating to the nature of speech disorders and incidence of speech disorders is presented and discussed in the next chapter.

FOOTNOTES

[1] All enrollment figures are for the 1964-65 school year.

[2] Charles Van Riper, Speech Correction - Principles and Methods, Fourth Edition, Englewood, N. J., Prentice Hall, 1963, p. 16.

[3] Ibid., pp. 18-19.

CHAPTER II

REVIEW OF LITERATURE

The literature concerning the incidence of speech disorders and the procedures for identifying individuals with speech disorders is relatively extensive. The following discussion will present only a brief summary of some of the more pertinent studies related to the incidence and identification of speech disorders.

INCIDENCE OF SPEECH DEFECTIVES

The American Speech and Hearing Committee of the Mid-Century White House Conference on Children and Youth in their report of 1951 estimated that the incidence of severe speech defects among children in the United States between the ages of 5 and 21 years based on an assumed total population of 40,000,000 was 2,000,000. The gross number of speech disorders for all age levels, based on an assumed total population of 150,000,000, was considered to be 7,500,000. The committee estimated that five percent of the total population had severe speech disorders, and another five percent had minor speech disabilities.[1]

The estimate of an incidence of 10% of the population having speech disorders has been substantiated by several investigators. Carrell in 1936 reported a 10% incidence of speech defects.[2] A survey of 4685 children in Holyoke, Massachusetts, conducted by Mills and Streit in 1940-1941 found an incidence of 10.1%.[3]

Brief reference is made by Johnson and Gardner to a survey among 9448 children enrolled in public and parochial schools in Superior, Wisconsin, and adjoining Douglas County in which a 10.5% incidence of defects was reported.[4] These authors also discussed a remedial education survey in Iowa which noted that approximately 10% of the children were judged to have speech disorders.[5]

Although the American Speech and Hearing Association estimate of 10% is generally accepted by most as a relatively accurate estimate of the incidence of speech disorder, several investigators have reported different findings. Surveys of incidence of speech defectives prior to 1941 ranged from 3% to 20% with a mean of 10 to 13% according to Johnson and Gardner.[6]

Early surveys to determine the incidence of speech disorders frequently used a questionnaire to gather the data. Wallin's study in St. Louis in 1916 and Root's study in South Dakota in 1926 used this method to collect their information. Wallin discovered an incidence of speech defects in children from 5 to 21 years of age of 2.8%.[7] Root, however, found an incidence of 6.3%.[8] Roe and Milisen described the work of Blanton, Ballard and Blanton that reported an incidence of defects of 5.69% in Madison, Wisconsin, in 1916. In the same article, Roe and Milisen noted Blanton's report of a Camp of Grand Rapids survey which found an incidence of 15%.[9] Louttit and Halls, using a survey-questionnaire to evaluate 200,000 children in Indiana public schools in 1936, found a defect incidence of 3.7% which they felt was a conservative estimate.[10]

Other reports of a relatively low incidence of speech defects in school population are compared by Burdin. In his discussion of incidence, he reports 2.5% for Liverpool, England, 2.3% for New Orleans, Louisiana, and 2.46% for both Kansas City, Missouri, and Milwaukee, Wisconsin.[11] Burdin's own survey of grades 1 through 4 in Indianapolis reported an incidence of 2.94%.[12]

Somewhat higher incidences of speech disorders are reported by Davis, Irwin, Pronovost, and Morris. In an unpublished report in 1937 to the Board of Education in Akron, Ohio, Davis found that 6% of the school children in Akron were handicapped in speech.[13] Irwin reported that 7.7% of the population in ten Cleveland schools had speech defects.[14] Pronovost in his survey in New England reported an incidence of 7.8%. Although he used a questionnaire to gather his data, he did not restrict his investigation to only elementary and secondary schools, but he also contacted college speech clinics, medical and residential institutions for his information.[15] Morris discovered speech defects among 45% of the children in grades 3A through 7A enrolled in the Indiana State Teachers College Laboratory School.[16]

Most surveys have been conducted in elementary schools. However, Carhart reported in a survey of several Illinois high schools in 1939 that 20% of the high school students had speech problems. He suggested that the incidence was probably higher.[17]

Morley found a somewhat lower incidence of defects among college students at the University of Michigan. A survey of the incoming students designated only 3.85% as speech clinic cases.[18] He theorized that the lower incidence among the college students, who generally represented the upper quarter in academic rank of high school graduating classes, probably was due in part to the somewhat select nature of the group. In addition, the student body tended to come from states with long established speech correction programs.[19]

It can be seen that there is a wide range of reported incidence for speech defects within the school age population as well as the general population. Further discrepancies can be noted in an analysis of the incidence of the particular types of defects.

Most reports recognize that the largest category of speech disorders is that of articulation. The American Speech and Hearing Committee considered articulation problems to comprise about 60 percent of all speech disorders, and estimated that 3% of all children between the ages of 5 and 21 years would have a functional articulation problem.[20] Using the same population figures cited in the 1951 Mid-Century White House Report, this would mean approximately 1,200,000 children or 4,500,000 people of all ages would be affected by an articulation defect.

The Committee further estimated that .7% of school aged children would have stuttering disorders, and that .5% would have impaired hearing with a speech defect. Incidence for the same age group was calculated to be .2% for voice disorders, .2% for cerebral palsy speech, .1% for cleft palate speech, and .3% for retarded speech development. These estimates considered only the 5% of the population with severe speech disorders.[21] Minor speech defects were not included.

Pronovost also described articulatory defects as the major speech disorder in terms of frequency, representing 50% of all speech problems. His New England survey identified 10.9% of speech defects as stuttering disorders, 6.6% to be voice disorders, 1.0% to be cerebral palsy speech and 1.2% to be cleft palate speech. Delayed speech accounted for 4.4% of the speech problems. Hard of hearing represented 15.4% of the defects while deafness accounted for 8.4% of the problems.[22]

Johnson reported that 5% to 10% of the population have articulation defects and another 1% to 2% have significant voice disorders. He further states that stuttering affects .6% to 1% of the population.[23]

Louttit and Halls reported that according to their survey, 79% of all speech problems were articulatory, and articulation disorders were found in 2.93% of the school population in Indiana. Stuttering accounted for 21% of the speech problems or an incidence of .77%.[24]

In a comparative analysis of the distribution of speech problems in Ohio, Illinois, California and Chicago, Irwin found that individuals with articulation disorders accounted for 77% to 81% of the people receiving speech therapy. These figures are somewhat higher than the reports of Pronovost (50%) and the American Speech and Hearing Association estimate of 60%.[25]

Similar discrepancies occurred in the reports of the percentage of people receiving therapy for stuttering. Illinois and Ohio reported 7.0% and 8.0% respectively. Chicago and California reported 14.1% and 15.0% respectively. Pronovost found only 10.9% in his survey while the American Speech and Hearing Committee estimated 14.0%.[26] Incidence for voice disorders was given as slightly more than 1% in Ohio and Chicago, 4% in Illinois and in The American Speech and Hearing Committee's estimate, and 6.6% in the New England survey.[27]

Variation in the reports of incidence is probably due to several factors. One significant reason for the discrepancies may be attributed to the lack of standardized procedures in collecting the data. Differences in ages of children sampled, differences in environmental settings, lack of standardized definitions of what constitutes a speech defect, differences in the significance attached to the severity of a speech problem and whether or not it constitutes a speech defect, utilization of untrained and trained evaluators, and differences in the method of collecting the data do not enhance the possibility of uniform information.

Although discrepancies do exist in the reports of incidence, some generalizations can be made. Approximately 5% of the population will have severe speech defects and the most prevalent defect will be articulatory in nature. Voice and fluency disorders are also found with regularity, but with much less frequency. If minor speech disorders are included, the overall percentage of incidence is generally considered to be 10%.

EFFECTS OF MATURATION

Effects of maturation on the incidence of speech disorders is discussed by several investigators. Louttit and Halls identified 10% of the first grade as speech defectives and only .7% of the twelfth graders as having defective speech.[28] One half of the number of defectives reported in the first grade had improved by grade three although no speech training was given. Half of the remaining group of defectives improved by grade six. Although articulation disorders decreased as the child developed, stuttering problems increased in successive grades.[29]

Carhart's study in the Illinois high schools found a higher incidence of speech problems among the ninth graders than among the twelfth graders. He pointed out, however, that several students with speech problems had dropped out of school before their senior year, and that this factor was a partial explanation of the differences in incidence.[30]

The effects of growth and maturation on articulation are also frequently discussed in the literature. Roe and Milisen found that many functional articulation errors were eliminated in grades 1 to 4 through maturation. As a rule, the number of sound errors decreased as the child progressed from grade to grade. However, Roe and Milisen found little difference in grades 4 to 6.[31] Sayler found maturation effects were less in the intermediate grades than in the primary grades and that little improvement was made between grades 7 and 10.[32] Some improvement was noted between grades 10 and 11, but defects in grades 11 and 12 were essentially the same. Little difference in the average number of errors was observed between grades 7 and 12 and on the whole, only slight improvement took place between grades 6 and 12.[33]

Saylor concluded that some sounds will develop with maturation, but may not be completely corrected by that factor alone. Other sounds are only slightly influenced by maturation, and individuals with faulty development of these sounds will require professional assistance to acquire correct sound production.[34]

Milisen points out that roughly 12 to 15 percent of the children enrolled in kindergarten through fourth grades will have seriously defective speech and between 4% and 5% enrolled in the next four grades will be considered to have defective speech. Incidence for persons over 14 years of age generally is projected to be about 4 or 5 percent.[35]

Maturation appears to have some effect upon the incidence of speech disorders, and generally a higher incidence of speech problems will be found in primary grades than in the high school levels. Studies limited to determining the incidence of speech problems in primary grades, therefore, can be expected to show a higher incidence than studies of the general population.

DIFFERENCES BETWEEN MALES AND FEMALES IN THE INCIDENCE OF SPEECH DISORDERS

Miller states that "girls have a slight advantage over boys in their spread of development in nearly all the aspects of language that have been studied."[36] A report from a 1931 White House Conference on Youth indicated that girls had a slightly lower incidence of speech disorders than boys.[37] Saylor's study showed that boys generally made more errors than girls, the difference ranging from .22 to 1.11 more errors per pupil, but she concluded that the difference was not significant.

Roe and Milisen found in their comparison of several studies no significant difference in the speech skills of boys and girls.[39] Templin concludes that when the "performance of boys and girls is compared, girls frequently do receive higher scores than boys, but the differences lack consistency and frequently are not statistically significant."[40]

RELATIONSHIP OF ENVIRONMENTS TO SPEECH DISORDERS

Some investigators have tried to establish a relationship between environment and incidence of speech disorders. Louttit and Halls found a higher incidence of speech disorders in county schools than in urban settings. Boys in each setting had a slightly higher incidence of defective speech than girls, particularly in terms of articulation disorder.[41] The White House Conference report of 1931 also showed a slightly higher ratio of speech defects in country schools.[42] However, Wilson found a slightly higher incidence of articulatory defects among urban children than among rural children.[43] Powers concludes that since the differences reported are small, the relative effects of urban and rural environments remain in doubt.

The educational-cultural level of parents, in her opinion, probably is more significant.[44]

Miller appears to concur with Powers as he believes that children in families with low income tend to be neglected, and linguistic retardation frequently results. Children from homes with higher economic capabilities tend to develop speech faster.[45]

Davis found that in every phase of language ability children from upper occupational groups are notably superior to children from the lower occupational groups.[46] In one study, approximately 73 percent of the children from five to ten years of age in the upper socio-economic levels were considered to have excellent articulation while only 58 percent of children in lower socio-economic levels were so rated.[47] Templin found statistically significant differences for most measures of linguistic attainment in her comparisons of lower and upper socio-economic groups.[48]

Beckey also reported that significantly more children with retarded speech belonged to lower socio-economic groups.[49] Her study further reported that parents of children with delayed speech generally had poorer educational background than children with normal speech development. Children who developed normal speech patterns generally had parents from the professional and managerial occupations.[50]

Powers concludes that the variance between children of different socio-economic levels in terms of articulation skills and the incidence of speech defects is probably due to better speech environments provided by parents of the upper socio-economic levels.[51]

INTELLIGENCE AND SPEECH DISORDERS

Investigation of the relationship between intelligence and speech behavior is extensive. Although it is not the intent of this report to consider the research in detail, some discussion of the correlation between speech disorders and intelligence seems indicated.

In an attempt to determine the nature of the relationship between speech and intelligence, some investigators approached the problem by studying articulation development and intelligence. Evidence seemed to indicate that articulation development was more closely related to chronological age than to mental age, but some correlation appeared to exist between aspects of sound development and aspects measured on intelligence tests. Individuals with high intelligence quotients tended to have more rapid articulation than those persons with low intelligence quotients.[52]

Other investigators approached the problem of the relationship between speech and intelligence through a study of individuals with defective articulation and individuals with normal speech. Many concluded that speech defectives appeared to have a lower intelligence level on the basis of the tests given.[53] Halls found no correlation between articulation skill of college students and their percentile rank on the Iowa Qualifying Examination.[54]

Caution needs to be exercised before concluding that persons with defective speech have lower I. Q.'s than non-defective speakers. The type of test used to determine intelligence quotient and the items within the test may be significant. Carrell found that speech defectives were below normal speakers in school achievement[55] and Sperling found that when she gave children with articulation disorders both verbal and nonverbal tests of intelligence, the children scored higher on the performance tests.[56] Perhaps one reason for the differences in intelligence quotients between normal speakers and speech defectives is due to a fallacy within the measuring device or procedures used for evaluation.

Some investigators have concerned themselves with the speech of children known to be mentally retarded. Most studies show a higher incidence of speech problems among mentally retarded individuals. It also follows that the lower the intelligence, the lower the incidence of normal speech.[57] Louttit and Halls reported that children with subnormal intelligence levels enrolled in special education classrooms had three times the speech errors found among children with normal intelligence quotients.[58]

Perhaps Powers presents a most fitting conclusion to this discussion.

> What can we conclude about the relationship of intelligence to articulatory deficiencies? The relationship has certainly not been shown to be so close that it has much predictive value except within broad limits. At the same time, results of research are consistent in showing a gross relationship, particularly for the low end of the intelligence range. Except for the greater incidence of articulatory deficiency among mentally retarded individuals, intelligence appears to be relatively unimportant as a determining factor in articulatory disorders, at least above the age range during which most speech learning takes place. In short, during infancy and the preschool years intelligence appears to

> be an important factor in articulation growth. Above that level intelligence bears only a general relationship to articulatory proficiency except when intelligence is below normal limits, when it unquestionably affects speech adequacy.
>
> It is interesting . . . to consider the possibly greater relationship of intelligence to certain types of functional articulatory defects, notably general oral inaccuracy, than to others.[59]

IDENTIFICATION OF THE SPEECH DEFECTIVE

Snydam states that there are basically four ways of identifying the individual with defective speech: by referral, by a speech survey, by a combination referral-survey and by voluntary enrollment.[60] The following discussion will briefly consider each of these methods.

Identification of children of school age through the method of referral is most frequently made by teachers. Research into the effectiveness of teacher referral has suggested that referral alone is not the most efficient means of identifying the individual with a speech problem.

In a study of the efficiency of teacher referrals in a school speech testing program, Diehl and Stinnett found that teachers missed 42.7% of the children considered to have defective speech by speech therapists. However, they successfully identified 57.3%. The teachers correctly identified 60.6% of the articulation problems, 36.9% of the voice disorders, 70.0% of the articulation-voice disorders, 44.4% of the disorders involving rhythm and 66.6% of the rhythm-articulation disorders. The teachers were significantly more successful in the identification of severe articulation problems than with mild problems, as they correctly identified 81.6% of the severe cases as compared with 42.7% of the mild disorders. The authors concluded that teachers failed to identify approximately two of every 5 children, and that they were least skilled in the identification of voice disorders. The study demonstrated less than 60% accuracy overall in teacher referral although teachers found 80% of the severe cases.[61]

Teacher referral as a method of identifying speech disorders is not to be discounted, however. Larr discovered that only 7% of the 345 pupils who had been classified by teachers as speech defectives were eliminated by speech therapists.[62]

The effect of training on the efficiency of locating individuals with speech problems has been explored by some investigators. Siegel found that inexperienced evaluators correlated well with experienced evaluators following a four hour training session concerning identification of articulation problems.[63] However, he also reported that reliability did not necessarily guarantee examiner equivalence since the examiners differed significantly in the scores assigned to children.[64] Oyer found no significant difference in the ability of college seniors majoring in elementary education and seniors majoring in speech and hearing therapy in their ability to recognize sound errors.[65] Irwin and Krafchick, in their comparison of the ability of experienced clinicians, senior majors in speech pathology, and classroom teachers to identify misarticulations, found that clinicians and seniors were consistently better than teachers in the identification of articulation errors, particularly involving certain sounds. However, teachers did as well as trained individuals in the identification of other sounds.

On the basis of limited evidence, it appears that teachers can successfully identify for referral to the clinician many children who have articulation disorders.

A second means to identify the individual with defective speech is through a speech survey. Surveys to determine the incidence of speech disorders and the nature of the disorders may utilize a questionnaire, personal interviews with the children or a combination of these procedures.

The questionnaire may simply ask for names of children believed to have defective speech or may ask for more descriptive and detailed information.

Interviews conducted by the speech therapist to discover the incidence of speech disorders vary considerably in length and content. The therapist may spend less than a minute with each child or perhaps as much as a half hour, depending on the information derived. An initial screening or identification of individuals who have defective speech may be quite brief. The therapist employing this method usually plans to conduct a second and lengthier interview before completing his diagnosis.

Description of materials and procedures for identifying speech disorders is extensive. Commercial materials for identifying speech problems are available from many companies, and many therapists have made their own materials. These materials frequently include objects, pictures of single objects or activities which are used to elicit controlled responses for evaluation by the therapist.

Lists of words or sentences are sometimes utilized for the same purpose. Frequently the therapist has an older individual read a paragraph or brief story to assist in the diagnosis. Many therapists utilize a combination of formal test procedures with pictures or sentences and informal conversation to give a more complete and valid identification and diagnosis of speech disability.

Many investigators believe that a more valid diagnosis is derived from spontaneous responses to test materials than from responses that are imitated or read. Although Templin's research indicates that similar results are obtained when pictures are named spontaneously as when words are repeated after the examiner,[67] Snow and Milisen found that children gave better responses to oral tests than to picture tests or reading tests.[68] Milisen also found that a person responds better to written symbols as cues for better articulation. He concludes that a better indication of articulatory skill is gained from pictures or objects used for stimuli.[69]

Snydom designated voluntary enrollment in a speech therapy program as another method for identifying speech defectives. Little can be found in the literature describing its efficiency or its frequent employment as a means of receiving speech therapy.

A poll of speech therapists conducted by Snydom indicates that most therapists use a combination of teacher referral and speech survey to locate speech defectives. In some cases, however, therapists accept only cases referred to them by school personnel.[70] In light of the previous discussion concerning referral efficiency, it seems likely that a more valid means to discover persons with speech disabilities would be through a combination of referral and speech survey.

IDENTIFICATION OF SPEECH DISORDERS IN ELLSWORTH SCHOOLS

Mrs. Elizabeth Oostendorp, a member of the Ellsworth teaching staff, conducted a questionnaire survey among Ellsworth teachers in 1963-1964 to discover the incidence of speech disorders as part of a speech curriculum report.[71] Teachers were asked a series of eight questions related to the identification of individuals with speech problems. A copy of the questionnaire is included in the appendix. Data was compiled from a district wide return of 67% of the questionnaires. Elementary teachers returned 76%, junior high teachers returned 79%, while senior high teachers returned only 44% of the questionnaires.[72]

The teachers referred a total of 172 names of persons that they believed to have defective speech. Referrals from the elementary schools accounted for 59 names which included children from kindergarten through grade 6.[73] Of the 63 referrals in the junior high school, 20 names were duplicates, making a total of 43 individuals considered as potential candidates for speech therapy. Senior high school teachers reported 50 names with 8 duplications, making a total of 42 individuals suggested for speech therapy. On the basis of the returned questionnaire, a total of 144 persons in the Ellsworth school system were considered to have defective speech.

The Oostendorp survey is the only known report of speech defective individuals in the Ellsworth school district. The results were considered to be a conservative estimate of the total incidence of speech problems because of the limited returns and because teacher referrals in other studies have not identified all individuals with speech problems.

In summary, this chapter has attempted to present a brief resume of previous research concerning the incidence of speech problems and particular speech disorders, and methods and procedures employed in speech surveys to identify speech defectives in order to establish a background for interpreting the results of the speech survey in the Ellsworth school district. The next chapter will discuss the methodology used in the survey.

FOOTNOTES

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[17] Raymond Carhart, "A Survey of Speech Disorders In Illinois High Schools," *Journal of Speech and Hearing Disorders*, IV (March 1939), p. 67.

[18] Morley, *ibid.*, p. 27.

[19] *Ibid.*, pp. 28-29.

[20] ASHA Committee, *ibid.*

[21] *Ibid.*

[22] Pronovost, *ibid.*, p. 154.

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[26] *Ibid.*

[27] *Ibid.*

[28] Louttit and Halls, *ibid.* p. 79.

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[30] Carhart, *ibid.*, pp. 65-66.

[31] Roe and Milisen, *ibid.*, p. 44.

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[46] Edith A. Davis, *The Development of Linguistic Skill in Twins, Singletons, with Siblings and Only Children from Age Five to Ten Years* (Minneapolis, Minnesota: University of Minnesota Press, 1937), p. 134.

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[52] Powers, *ibid*., p. 749.

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[66] Ruth Beckey Irwin and Ivan Paul Krafchick, "An Audio-Visual Test for Evaluating the Ability to Recognize Phonetic Errors" *Journal of Speech and Hearing Research* VIII (September, 1965), pp. 281-290.

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[69] Opinion expressed by Dr. Robert Milisen at the Minnesota Speech and Hearing Conference luncheon, Minneapolis, Minnesota, May 14, 1965.

[70] Snydam, *ibid.*

[71] Elizabeth J. Oostendorp, "Speech Department" (Ellsworth, Wisconsin: Curriculum Report, 1964). (Mimeographed.)

[72] *Ibid.*

[73] Mrs. Oostendorp did not submit the results of the speech survey as part of her curriculum report, but made the data available to the investigators of this project, who made the analysis discussed in this report.

CHAPTER III

ORGANIZATION

Speech surveys to discover the incidence and nature of speech disorders may be approached through a variety of means as suggested in the previous chapter. The discussion that follows will describe the methods and procedures followed in collecting the data in the Ellsworth survey, the materials used the the survey, and the procedures used in the analysis of the data.

METHODS AND PROCEDURES

The purposes of this study were to determine the incidence and nature of speech disorders in the Ellsworth school system, to determine which children, if any, required speech therapy, and to provide training experiences for potential public school therapists. The investigators selected the personal interview method to survey the children in the Ellsworth school district as being the most useful procedure to fulfill those purposes.

SCHEDULE

The schedule was designed to survey elementary schools during Tuesday and Thursday afternoons during the Fall Quarter of 1964. The surveys at Prairie View, Sunnyside and Lindgren were completed in two visits. The Hillcrest survey was completed in three afternoons and one afternoon was required to survey Maiden Rock.

A full day was spent at the junior high school. On these occasions, additional evaluators were used and some adjustments in personnel were required in order to avoid conflicts with University class schedules.

Interviews were conducted by a two man team of evaluators, and generally five teams operated simultaneously. Most interviews in elementary schools were conducted in the gymnasium or cafeteria. The large room permitted a sufficient space between the evaluating teams that eliminated much of the conflicting and distracting noise from nearby interviews.

Interviews in the junior high were conducted in a complex of rooms no longer used for classroom purposes and a large hall. These facilities were not immediately adjacent to other classrooms and this permitted testing with a minimum of distraction to those teaching and to those conducting the survey.

Interviews in the senior high school were conducted in the band and choral rehearsal rooms, music practice rooms and an instrument storage room.

The evaluators conducting the interviews were junior and senior college students majoring in speech pathology, They had all successfully completed several courses in the speech pathology curriculum, including supervised practical experiences in speech therapy. The evaluators attended a series of training sessions designed to familiarize them with the survey design and to standardize testing procedures.

The teams of evaluators interviewed the children on an individual basis. Generally two of the five teams conducted an initial interview for the purpose of screening out children who had possible speech disorders, who were then referred to one of the remaining teams for a more complete evaluation. If in the initial interview, the evaluator did not detect a speech problem, the child returned to his classroom.

Arrangements with school administrators permitted the project coordinator to explain survey procedures to each classroom. Following his explanation, approximately half of the class was excused for the interviews. When these students returned to the classroom, other students were excused for the interview. Absentees were interviewed in subsequent visits to the school.

MATERIALS

The evaluators were provided with identical sets of survey materials. Each set contained the following items:

1. Screening materials for the initial interview
    a. A picture test for the non-reader.
    b. A paragraph test (3 forms)
2. Materials for further evaluation
    a. One set of the Hejna Developmental Articulation Test picture cards.
3. Recording forms for test results

The picture test for non-readers consists of silhouettes of common objects made from colored construction paper mounted on 9" x 12" paper protected by a plastic cover. The objects include a purple umbrella, a green car, a black house, a brown tree, a red kite, a blue star, a yellow hat and an orange teepee. Identification of the object by name and color requires the use of the sounds most frequently produced incorrectly by children.

Each form of the paragraph test contains all of the American English speech sounds used in one or more positions in words. The paragraphs differed in difficulty of vocabulary and sentence structure, and presented different degrees of reading difficulty. A copy of each paragraph is found in the appendix.

The Hejna Developmental Articulation Test Picture Cards is a set of 26 cards containing 78 pictures of objects. Correct identification of these objects requires the use of all of the American English speech sounds in the initial, medial and final positions in words.

The record form used in the survey correlates with the Hejna Picture Cards. Space for recording deviations in sound production is provided on the front of the form while deviations in fluency, voice and language are recorded on the back of the form. A copy of the record form is included in the appendix

SCREENING PROCEDURES

Evaluators engaged each child in conversation during the initial interview in order to get a general assessment of the child's speech skills. Frequently they asked the child questions about his family and his activities and to count from 1 to 20. The non-reader was asked to identify the names and colors of the objects on the screening picture test. The student who could read was asked to read one of the screening paragraphs, one which was appropriate for his reading level. When deviation in speech behavior was observed, the child was referred to a second evaluation team for further testing.

Evaluators conducting the second interview were responsible for identifying the nature of the deviant speech behavior. The children were asked to identify the objects on each of the Hejna Articulation Picture Test Cards. Errors in speech sounds were recorded in the appropriate spaces on the record form.

Omissions were noted by a dash (-) or a zero (0) in the space provided. Distortions of sounds were recorded as a capital D. Extranious sounds were written in the appropriate spaces whenever they occurred. Sounds substituted or used in place of appropriate sounds were written in the space provided. Evaluators used the International Phonetic Alphabet to record the deviations in articulation. A copy of the Alphabet is found in the appendix.

Deviations in voice, fluency and language were also recorded at this time. The evaluators placed a check(✓) by each of the terms on the back of the record form that best described the type of deviation. Evaluators could write additional information or comments on the back of the form when it seemed pertinent.

ANALYSIS OF DATA

Data for analysis was taken from the information recorded on the record forms completed during the speech survey. The following information was computed from the forms:

1. The number of speech problems in the Ellsworth school system identified by sex, schools, grade levels, nature of problem, and severity of problem.

2. The incidence of children with speech problems in the Ellsworth system indentified by sex, schools, grade levels, and nature of problem.
3. Names of children with speech disorders and the nature of the disorder.

Results of the survey will be made available to the Ellsworth school officials and staff. The following chapter will discuss the findings of the survey.

CHAPTER IV

DISCUSSION OF RESULTS

The purpose of this chapter is to present the results of the Ellsworth speech survey and to discuss some of the implications of the data. The information is summarized in tabular form and may be found as part of the discussion included in this chapter or as part of the appendix.

INCIDENCE OF SPEECH DISORDERS

A total of 1767 children in the Ellsworth School System were tested by the evaluators. This total includes 917 males and 850 females.

Approximately 200 children enrolled in kindergarten were not included in the project. Previous research points out that the high incidence of speech problems among kindergarten children is frequently eliminated or significantly reduced by maturation.[1] Consequently, a survey among these children to define the need for speech therapy services did not appear justified. However, 2 children enrolled in the Prairie View kindergarten were tested at the request of their classroom teacher.

Table I summarizes the findings of the speech survey. The table gives the number of males, the number of females, the total number of children enrolled in each grade; the number of males with speech problems, the number of females with speech problems, the total number of students with speech problems; the incidence of males with speech problems compared to the total class enrollment, the incidence of

44

females with speech problems compared to the total class enrollment, the total incidence of speech problems per grade; a comparison of males with speech problems to the total number of males in each grade and lastly, a comparison of females with speech problems to the number of females enrolled in each grade.

Little difference between the number of males and females with speech problems was found. According to the survey, 344 males and 343 females in the Ellsworth School System have speech disorders, an incidence of 19.5% and 19.4%, respectively. The difference between males with speech problems compared to the total male population and females with speech problems compared to the total female population was small also. However, for individual grade levels, the difference between males and females was noteworthy.

Males in the first, second and third grades had a higher percentage of the speech problems than the females in the same grades. For example, males in the first grade had nearly twice as many disorders as female first graders. The generalization that males have more speech problems than females held true only for certain grades in this study, i.e., grades 1, 2, 3, 8 and Opportunity Room. On the other hand, females had a higher incidence of speech problems than males in grades 4, 5, 6, 7 and 12. Furthermore, the incidence for females with speech problems was nearly double that of males in the seventh grade. The evaluators could not account for the differences in incidence.

When the incidence of speech problems among males is examined in relationship to the total male population and the incidence of problems among females is related to the total female population, females with speech problems generally accounted for a higher percentage of the population. Grades 1, 2, 5 and 8 are exceptions to this generalization. In grade 1 more of the male population had speech problems than female. Most of the differences in percentages are relatively small, except in grade 11.

Although differences in the incidence of speech disorders for each sex occur, the differences for the total population appear small. Consequently, the investigators concur with Templin, Sayler, and others that these differences lack consistency and significance.

MATURATION EFFECTS

Maturation effects were noted to some degree in the survey. For example, the first grade had a noticeably higher incidence of speech disorders than succeeding grades. The decrease in the incidence is marked between grades 1 and 3, similar to the research findings of Roe and Milisen as well as of other investigators. The intermediate grades show much less change in incidence of disorders than the primary grades. The incidence of defects is also somewhat consistent for junior high and senior high grades.

A descending trend in the number of speech problems can be identified only for grades 1, 2, and 3 before an upward surge in problem incidence is noted in grades 4 and 5. The incidence of problems dropped once more for grades 6, 7, 8 and 9 before rising again at the senior high level.

The investigators could not account for the pattern of incidence of behavior found in the survey. However, they note that elimination of speech problems appears to be related to more than maturation. Although Table I does indicate that the incidence of speech problems tends to decrease with successive grades, an examination of the table makes it apparent that maturation as a single factor does not eliminate the presence of speech disorders.

INCIDENCE FOR SPECIAL EDUCATION UNITS

The unusually high incidence of 81.8% for the Opportunity Room coincides with reports in the literature of the incidence of speech problems for other special education units. It is interesting to note that although males accounted for numerically more of the speech problems, all of the females reportedly had speech disorders. However, no significance should be attached to this observation.

DISTRIBUTION OF SPEECH PROBLEMS

Table II presents a summary by grade levels of the number of males and females with speech problems; the total number of problems; the distribution of speech disorders among the categories of articulation, articulation-voice, voice, fluency and language; the distribution of severity ratings among mild, moderate and severe categories; and the number of recommendations for therapy or re-evaluation. For the purposes of this study, multiple problems were counted as individual units within their respective categories. Six of the 689 children designated as having speech problems had more than one of the problems listed above. Thus, the total number of speech problems was 695.

It can be readily seen in Table II that most of the speech problems found in the Ellsworth School System concern articulation and/or voice. Disorders of voice rank second to the articulation disorders while the combination of articulation and voice problems constitute the third largest number of problems. Fluency and language disorders account for relatively few of the speech problems. The large ratio of articulation problems to other types of disorders is consistent with the findings in the literature.

The marked decrease in the number of articulation problems between the first grade and successive grades should be noted. A similar reduction does not occur for the other types of speech disorders. Each type of speech problem and its incidence will be discussed more fully later in this chapter.

SEVERITY RATINGS

Although most speech problems were judged to be mild or moderate in severity, problems of moderate severity were more numerous. Only a small portion of the problems were considered to be severe in nature.

Individuals with problems classified as severe are probably immediate candidates for therapy, subsequent to additional diagnosis. Many of the students with problems rated as being moderate in severity would be included in therapy also, following supplementary evaluation. Students with problems identified as being mild in severity normally would not be considered for speech therapy although they probably could profit from speech improvement programs. The number of severe and moderate ratings tended to decrease with successive grades as shown in Table II. However, the incidence for mild ratings increased over the same grades. The evaluators could not account for decrease in severe and moderate ratings. However, the large number of mild ratings is explained, for the most part, by the high incidence of distorted s sounds found in the junior and senior high school levels. Most of these distorted sounds were considered to be minimal articulatory disorders, and generally people with this type of problem would not be included in a speech therapy program.

RECOMMENDATIONS FOR THERAPY

The investigators indentified 111 students as needing speech therapy services and recommended additonal testing for 578 others. Further testing or re-checking was suggested for the latter group to insure that a speech problem really existed which required therapy and/or to secure additional information vital to planning a speech therapy program.

Many problems rated as being mild in severity were included in the re-check category. Ordinarily, most of these mild problems would not be included in therapy since preference for therapy usually is given to the child with a severe problem. However, re-evaluation was recommended to prevent the omission of students who may require speech therapy.

COMPARISON OF INCIDENCE

Comparison of the results of this survey with others cited in Chapter 2 is somewhat difficult due to the large number recommended for additional diagnosis. However, the actual number recommended for therapy, 111 cases constituting 6.0% of the population evaluated, compares favorably with the 10% incidence estimated by the American Speech and Hearing Association Committee and other studies. The

Ellsworth incidence is only slightly higher than the Committee's estimate that 5% of the population have severe speech disorders. Although the incidence in Ellsworhh is considerably higher than some surveys discussed in Chapter 2, the incidence is the same as reported by Davis in the Akron schools, and slightly lower than what Irwin reported in her study of ten Cleveland schools and what Pronovost found in his survey of New England. However, the percentage of incidence in Ellsworth probably will be higher than 6% when the additonal evaluation of children recommended for re-checking is completed.

DISTRIBUTION OF TYPES OF SPEECH DISORDERS BY GRADE LEVEL AND BY SEX

Table III summarizes the distribution of the types of speech disorders by grade levels and by sex. Males tended to have more articulation, articulation-voice and fluency problems than females, although the differences are small for articulation and articulation-voice. Females had a slightly higher incidence of voice problems. Only one language problem was found by this survey.

ARTICULATION DISORDERS

Table IV summarizes the incidence of males with articulation disorders compared to total population per grade, females with articulation disorders compared to total grade populations and the total incidence of articulation problems per grade. It also shows what percentage of the males and females respectively have articulation problems.

A total of 397 articulation problems were found in the population tested, indicating that 22.5% of the Ellsworth children were considered to have an articulation problem. Males accounted for 204 instances or 11.6% of the total population. and females accounted for 193 instances or 10.9% of the population. Further analysis shows that 22.3% of the male population and 23.7% of the female population had articulation disorders.

Little difference in incidence appears between males and females in an analysis of the total school population. However, this is not true for individual grade levels. For example, males in grades 1, 2, 3 and the Opportunity Room have noticeably more articulation problems than females, and in some grades the incidence is more than doubled. Females, on the other hand, account for a larger percentage in the remaining grades with the exception of grade 5.

In grades 1, 2, 3, 5 and the Opportunity Room the incidence of articulation problems among males in comparison to the male population was higher than the incidence among females compared to the female population. The reverse was true in the remaining grades.

Articulation skills appeared to improve noticeably between grades 1 and 3 with only half as many children with defective articulation being reported in grade 2 as in grade 1. Little difference in the incidence appeared in grades 4 through 6, grades 7 through 9 and grades 10 through 12. Grade 11 is an exception.

The increase in the incidence reported for the senior high school may be due in part to the high frequency of distorted s sounds recorded by the evaluators. These distortions normally would not be considered to constitute severe speech disorders.

Maturation appeared to have little influence in the intermediate grades or in the junior and senior high school grades in this survey of the Ellsworth School System. Maturation seemed to be a factor only in the lower elementary grades, and even then, maturation as a single factor did not eliminate speech problems. These findings agree with those of Sayler.

ARTICULATION-VOICE DISORDERS

Table V indicates that articulation-voice disorders accounted for only 7.1% of the speech problems among the children tested or 126 instances. Little difference existed between males and females in comparison to the total population or in comparison to the total male or total female populations respectively. Differences in individual grade levels generally were small. Articulation-voice disorders accounted for smaller percentages of the male and female populations, 7.0% and 7.3% respectively, than did articulation disorders which affected 22.3% of the males and 23.7% of the females.

The tendency for a slight decrease in the incidence of the number of individuals with articulation-voice disorders in upper grades suggests some maturation effects. However, the decrease in incidence is relatively small, and the incidence is somewhat consistent from grade to grade at times. The investigators theorize that the reduction is due more to the improvement of articulation skills than to the improvement of aspects of voice. More information to substantiate this hypothesis is needed.

VOICE DISORDERS

The incidence of voice disorders was slightly higher than for articulation-voice disorders but considerably lower than that for articulation disorders. Table VI summarizes the incidence of voice disorders in terms of the relationship of males and females with voice problems to the total school population and to the male population and female population respectively on each grade level. Widespread differences do not appear from one grade level to another. Differences between males and females remain relatively small, compared to the total population with the exception of grade 7 where no incidence was reported for males.

With the exception of grades 8 and 11, this survey reported that at least 5% of the female population had voice problems. Most grade levels reportedly had an incidence for voice problems of 10% or more for females. Incidence for males was not as high as for females, with one grade and the Opportunity Room reporting no instances.

The incidence of 8.8% of the students having voice disorders in the Ellsworth School System is higher than that found by previous surveys. The national estimate is that less than one percent of the school population will have voice disorders. Pronovost found over 6% in his survey of incidence, and in Irwin's study the incidence ranged from 1 to 4 percent. The difference between the incidence reported for Ellsworth and that found in previous studies may not be exaggerated. Some of the reports of incidence cited in Chapter 2 are based on the actual number of voice cases enrolled in therapy.

It has been the experience of the investigators that few therapists are skilled in the diagnosis and treatment of voice defects. Consequently, children with voice problems frequently do not receive therapy. This in part would account for a report of low incidence. The investigators further believe that diagnosis of voice disorders is relatively subjectiv making agreement upon what constitutes a voice defect more difficult than the diagnosis of other problems. This would also help account for differences in the reports of incidence. Furthermore, on the basis of experience, the investigators believe that many speech therapists are not always as conscious of voice problems as they are of articulation and fluency problems when surveying for speech defectives. This factor would reduce the incidence reported. The student evaluators in this study were frequently reminded to listen to vocal aspects as part of their interviewing procedures.

Maturation appeared to have little influence on the incidence of voice problems. Instead of a descending pattern in successive grades which could be indicative that increasing age was eliminating the problem a somewhat consistent incidence was reported for most grades. The investigators could not account for the sporadic pattern of incidence in grades 7, 8, 11 and 12, nor for the differences in incidence between males and females at different grade levels. It is interesting to note the high number of voice problems in the elementary grades, particularly among females.

The limited time spent in evaluation may explain part of the inciden pattern. Some of the voice problems may have been products of upper respiratory infections, and thus only temporary problems. Others may be the products of physiological change associated with puberty. Further evaluation is certainly needed to define those individuals with voice problems requiring speech therapy.

If the 126 articulation-voice problems are added both to the total number of articulation problems and of voice problems, the incidence for both disorders naturally increases. The total number of problems in the district is also increased, and this final total may be misleading as to the actual number of students who need speech therapy assistance. Since the purpose of this survey was to identify the children requiring speech therapy, and since a noteworthy number had both articulation and voice problems, the investigators chose to count the combined problems as one problem so as not to inflate the total number of problems nor the total number of children who require speech therapy.

FLUENCY DISORDERS

The incidence for fluency problems was considerably lower than for the other types of speech disorders. Table VII indicates that only 14 instances were reported, 11 of which were found among the males. Total incidence for fluency disorders was only .8% of the school poonulation, with males accounting for .6% and females for .2%. Difficulties with fluency were reported for 1.2% of the males as compared with .4% of the female population.

Fluency problems were not detected in five grades and the remaining grades reported at least once case. A noteworthy exception was grade 8 with five fluency problems, four of which were male. A tendency for incidence to increase in successive grades is present to a limited degree.

The incidence of .8% found in the Ellsworth survey compares well with other studies. Johnson reported that .6% to 1% of the population have fluency disorders and the National Committee and others estimate approximately .7% of the population have problems of fluency.

SEVERITY RATINGS FOR MALES AND FEMALES FOR INDIVIDUAL GRADES

Table VIII shows an analysis of the severity ratings for males and females in each grade level. Ratings for males and females differed noticeably in the severe category with males reportedly having three times as many severe speech problems as females. Differences between the sexes for mild and moderate ratings are not as great, although females had a higher incidence in both categories.

INCIDENCE OF DISORDERS FOR INDIVIDUAL SCHOOLS

The incidence of speech disorders listed by schools within the Ellsworth School System may be found in Table IX. The incidence was determined by comparing males with speech problems to the total population in each school; females with speech problems to the individual school populations; the total number of students with speech problems in each school with the school population; and by comparing males and females with speech problems to the male and female populations respectively in each school.

Incidence varied from 33.8% in the Hillcrest Elementary School to 54.3% in Sunnyside Elementary School. The district incidence was 38.9%. Incidence of males with speech problems ranged from 32.1% in the junior high to 54.9% in Sunnyside. Females with speech problems ranged from an incidence of 32.8% at Hillcrest to 53.6% at Sunnyside. District incidence was 37.6% for males and 40.4% for females. It is not the purpose of this study to analyze the factors explaining school differences.

The high incidence of speech disorders reported for Ellsworth is a maximal figure, and includes children who would not be included in therapy because of minimal articulation distortions. The inclusion of these people, however, inflates the figure of incidence. It should be remembered that only 6% were considered to be immediate candidates for therapy. The true incidence of speech disorders lies somewhere between 6% and 38.9% of the school population.

Table X summarizes the incidence for the different types of speech disorders for each school. The table also presents an analysis of the severity ratings and recommendations for therapy for individual schools.

The number of articulation problems ranged from 21 instances at Maiden Rock Elementary School to 116 in the Senior High School. Incidence, however, ranged from 46.5% at Prairie View to 65.9% at the High School. The district reportedly has 399 individuals with articulation problems or 57.4% of the speech disorders are articulatory in nature.

The incidence of 57.4% compares well with the National Committee's estimate that 60% of the speech problems are articulatory. Pronovost found only 50% while Louttit and Halls found that almost 80% of the problems concerned articulation. Irwin's report indicated approximately

80% as well.

Incidence of articulation-voice disorders ranged from 12.1% at Hillcrest to 30.2% at Maiden Rock. Instances of this problem ranged from 11 at Hillcrest to 25 at the High School. The district allegedly has 126 cases or 18.1% of its speech problems are combinations of voice and articulation problems.

Maiden Rock with 9 instances, apparently has fewer voice problems than other Ellsworth schools. However, Sunnyside has the lowest percentage of its total speech problems constituting disorders of voice, 16.9%. More voice problems, 33 instances, were found in the high school but Prairie View has the highest percentage of voice disorders among the district schools.

The district has an overall incidence of 22.3% of its problems constituting voice disorders. The remarks made in the discussion earlier in this chapter concerning the comparison of the incidence of voice disorders in the Ellsworth district and other surveys are also appropriate here but will not be repeated.

Fluency problems comprised only 2.0% of the district's speech problems. The Junior High School had the highest number of fluency problems and the highest percentage of incidence. Table X shows that two schools reportedly had no fluency problems.

The incidence of fluency disorders in the Ellsworth district, when compared to the total number of speech disorders, is somewhat lower than that reported by earlier studies. Pronovost reported an incidence of 10.9% and Louttit and Halls found that stuttering accounte for over 20% of the speech disorders in their survey. Irwin's comparative study reported that stuttering therapy ranged from 7.0% to 15.0% of the total speech therapy given.

The investigators believe that the incidence of 2.0% in the Ellsworth district is conservative. The probability of identifying individuals with fluency disorders in a brief screening or speech interview is minimal, and frequently these individuals are missed.

The difference in the incidence of fluency problems reported in the Ellsworth district and in other surveys cited in Chapter 2 may also be due to the methods employed for collecting the data. Several of the surveys report the actual cases enrolled in therapy, and consequently fluency disorders may comprise a higher proportion of the therapist's case load than other disorders. Other surveys report the occurrence of non-fluency compared to the total population. Fluency problems are not as common as other problems in the total population. Consequently, the discrepancies in the research findings may be due to several factors.

Sunnyside was the only school with a language problem. This does not necessarily mean that language problems do not exist elsewhere, but only that this survey did not identify them.

The Junior and Senior High Schools had a higher incidence of mildly severe problems in comparison to other schools and the lowest incidence of severe problems. Ratings of mild problems ranged from 9.1% of the speech disorders to 47.1% while ratings for moderate disorders ranged from 50.0% to 71.4%. Ratings of severe problems ranged from .6% to 18.2%. Speech problems were rated, on a district wide basis, as being 34.5% mild, 58.4% moderate and 7.5% severe in nature.

According to the results of the survey, Maiden Rock has the lowest number recommended immediately as therapy candidates. However, additional diagnosis of students recommended for recheck may significantly alter the number enrolled in therapy at each school.[2]

Summaries of the incidence, distribution of speech disorders, severity ratings and recommendations for therapy for individual schools may be found in the Appendix.

In general each school followed the patterns described in Tables I through X.

On the basis of this survey, a speech therapy program seems readily justifiable for the Ellsworth School System. Even excluding the majority of the students with articulation problems in the Junior and Senior High Schools, more than one therapist seems indicated in order to give adequate service to the speech handicapped within the district boundaries.

A summary of the results of the speech survey and recommendations will be presented in the next chapter.

FOOTNOTES

[1] See the discussion by Margaret Hall Powers "Functional Disorders of Articulation: Symptomatology and Etiology," Handbook of Speech Pathology, Lee Edward Travis, editor. (New York: Appleton-Century-Crofts, Inc., 1957) pp. 707-768.

[2] Caution should be exercised in the interpretation of Tables IX and X. Judgment as to which school has the most speech problems or the most severe disorders cannot be made on a valid basis with the information provided by these tables. Such an evaluation needs to be based on the acquisition of additional information regarding the speech disorders and the students possessing them, and equalization of numerous other factors, *e.g.*, does an articulation problem equal a voice problem, or are two mild severity ratings equal to one severe rating; how does one account for the significance attached to the speech problem by the individual; *etc.*

CHAPTER V

CONCLUSIONS

A speech survey of the Ellsworth School System during the fall of 1964 was initiated by the staff of the Speech and Hearing Clinic at Wisconsin State University-River Falls. This chapter is a summary of the results of the survey with recommendations for future research.

The purposes of the speech survey were: (1) to discover the nature and incidence of speech problems in the Ellsworth School District; (2) to discover if the services of a speech therapist could be justified and which children, if any, required such services; and (3) to assist in training potential speech therapists in survey methods.

The data used in the survey was collected by two-man teams of students majoring in speech pathology and audiology conducting personal interviews with the Ellsworth school children. A total of 1767 children, 917 males and 850 females, were interviewed in grades 1 through 12. Kindergarten children were not included in the survey with the exception of two males. Results were tabulated for the school district as a whole and for individual schools.

The survey indicated that 344 males comprising 19.5% of the school population and 343 females comprising 19.4% of the school population had speech problems. A total of 687 children or 38.9% of the children in grades 1 through 12 were considered to have speech disorders. Six children had more than one type of speech disorder. Six percent of the 689 children[1] or 111 students were designated as needing speech therapy and 578 others were referred for additional testing. The true incidence of speech disorders in the Ellsworth School System probably lies between the 6% recommended for therapy and the overall incidence of 38.9% which included a number of mild speech problems.

The speech problems were categorized as problems of articulation, voice, articulation-voice, fluency and language. Articulation disorders were found among 204 males or 11.6% of the school population and among 193 females or 10.9% of the school population. Males with articulation problems represented 22.3% of the male population tested and females with articulation disorders represented 23.7% of the female population. A total of 397 articulation problems were identified, or 57.4% of the speech disorders. The large number of articulation problems is consistent with other research.

Voice disorders represented the second largest group of speech problems found in the survey. A total of 155 instances were found, with 70 males and 85 females considered to have voice disorders. The incidence of voice disorders for the total population tested was 8.8%. The incidence of voice disorders in the total population for males was 4.0% and the incidence for females was 4.8%. Males with voice problems constituted 7.7% of the male population and females with voice disorders constituted 10.0% of the female population. Voice disorders accounted for 22.3% of all speech disorders identified in the survey.

Articulation-voice disorders were found among 7.1% of the school population or among 64 males and 62 females. Incidence for males in the total population was 3.6% and incidence for articulation-voice disorders among the males was 7.0%. Females with articulation-voice disorders constituted 3.5% of the total population and 7.3% of the female population. The 126 cases represented 18% of the speech problems identified by the survey.

Fluency problems were found among .8% of the school population. Of the 14 students who had fluency disorders, 11 were male and 3 were female. The incidence of males with fluency disorders was .6% of the school population while .2% of the females in the population had fluency problems. However, 1.2% of the males had difficulty with fluency while only .4% of the females had fluency disorders. Only 2.0% of the speech disorders were fluency problems.

Only one language problem was discovered by the survey.

Ratings of severity included 230 mild problems, 407 moderate problems and 52 severe problems. Many students designated as having a mild problem would not be considered a candidate for speech therapy.

The survey found few differences between males and females in the incidence of speech problems, although some individual grade levels reflected some noteworthy differences. Generally males tended to have more articulation, articulation-voice, and fluency problems than females, although the differences were small for articulation and articulation-voice problems in most grades. Males tended to have noticeably more articulation problems in the lower elementary grades, particularly in the first grade.

Females had more voice problems than males and at least 5% of the females in most grades appeared to have voice problems. Females had a noteworthy higher incidence of voice problems in lower elementary grades than males. The incidence for voice disorders in these grades tended to be higher for the females than in other grade levels.

Females had more ratings of mild and moderate severity than males who had over three times as many ratings of severe speech problems as females.

Maturation effects were noticed to a slight degree in the reduction of the incidence of speech disorders in successive grades. Although there was a marked decrease of defects between grades 1 and 3, little difference in incidence was noted in the intermediate grades, or in the junior high grades and the senior high grades. Articulation problems decreased noticeably between grade 1 and successive grades, a phenomena which did not hold true for other speech disorders. Maturation effects seemed most prevalent in the lower elementary for articulation disorders. Articulation-voice disorders decreased only slightly from grade to grade. Fluency disorders had a tendency to increase in succeeding grades.

The incidence of speech disorders in the Opportunity Room, the Ellsworth system's speech education unit, was 81.8%, markedly higher than individual grade levels. However, this phenomena is consistent with other research.

Individual schools in the system had basically the same patterns of results as found for the total district.

Names of students who were found to have speech problems, the nature of the speech disorder and a recommendation for therapy or additional diagnosis were given to the school officials.

The hypotheses outlined in Chapter I were upheld: at least 5% of the Ellsworth school children have severe speech problems and another 5% have minor speech disorders. Need for a speech therapist does exist in the Ellsworth School System.

The survey in the District substantiated previous research which indicated little difference existed in the incidence of speech disorders for males or for females. Maturation patterns also were similar to those discussed in previous studies. The incidence of articulation and of fluency disorders found by the survey was approximately that found by other speech surveys. However, a higher incidence of voice problems was found in the school district than reported by previous studies.

The 38.9% incidence of speech problems reported for the Ellsworth System is considerably higher than the incidence found in other similar surveys. However, the large incidence includes a number of mild articulation problems which normally would not be handled in speech therapy.

The discrepancy between the incidence of speech disorders reported in the Ellsworth District and in other studies may be due to several factors, one of which was the nature of the survey. The survey conducted in the system was a screening or preliminary survey. Its purpose was to initially identify those students who had differences in their speaking behavior, whether the difference was only slight or grossly deviant.

Consequently, students who have mild speech disorders but who are not candidates for speech therapy are included, thus increasing the reported incidence in the Ellsworth District.

A second reason for the report of unusually high incidence of speech disorders in the survey was due to distortions of the *s* sound occurring frequently, particularly on the junior and senior high school levels. Most of these distortions were slight, and would not be sufficient reason for recommending therapy in most instances. However, because distortions of sounds were considered to be articulation disorders, students who distorted speech sounds were included in the report of incidence of speech disorders.

The report of a higher incidence of voice disorders in the Ellsworth District may be due in part to increased attention given to vocal quality by the evaluators as well as to the brevity of the interview.

The procedures employed to collect the data in the Ellsworth System speech survey not only tend to inflate the incidence of speech disorders, but also have a severe limitation. This limitation concerns the amount of information that can be derived from a single brief contact with the student. An interview of only three minutes' duration may not be sufficient adequately to evaluate voice and/or fluency disorders in particular. Consequently, not everyone who has a speech problem may be identified in a screening speech survey.

Identification and proper classification of individuals with speech disorders were also affected by the methodology used in the speech survey. The training given to the student evaluators prior to the survey did not place sufficient emphasis upon standardization of judgment as to what constituted a speech problem in minimal or borderline cases. Ratings of severity were particularly questionable. A longer training period perhaps would have eliminated these problems.

Analysis of the data and particularly classification of severity ratings, would have been facilitated by refinements in the record form used. The form did not have provisions for rating or scaling severity of disorders or for the interviewer's recommendation concerning therapy.

Consequently, these judgments were supplied at a later date, and validity may be questionable in some instances since the information available on the form is severely limited.

Although the speech survey conducted in the Ellsworth School System had limitations in its methodology, the survey did fulfill its original purposes. The survey did determine that the Ellsworth system had children with speech problems and specified the nature and incidence of the problems in the Ellsworth School District. This incidence was compared to the incidence in other surveys described in the literature. Children who had speech problems were identified and recommendations for therapy or for additional speech evaluation were made available to the Ellsworth staff. Potential speech therapists became familiar with some procedures of surveying the speech needs of school children and in so doing, university services were extended to an adjacent community. Furthermore, on the basis of this survey, the services of at least one speech therapist is justified in terms of the need for speech services within the district.

Further suggested studies might well correlate the speech status with that of the socio-economic status, the speech status and intelligence, capabilities, or the speech status and reading skills. Follow-up studies might well include investigation of the influence of speech therapy on the number of students with speech problems, or what happens to the student with uncorrelated speech patterns. The influence of family environment upon particular types of speech problems or the incidence of speech disorders within families might also be investigated. Further research projects might consider investigation of the educational success of the speech handicapped child, the effect of teacher training programs on the speech behavior of students, and contiguous school districts to validate the results of the Ellsworth survey.

FOOTNOTES

[1] The 689 total includes the 2 kindergarten children.

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Table I

Incidence of Males and Females with Speech Disorders in the Ellsworth Schools by Grades[1]

Grade	School Population			No. of Speech Problems			% of Grade			% of M	% of F
	M	F	Total	M	F	Total	M	F	Total		
1	110	87	197	60	31	91	30.5	15.7	46.2	54.5	35.6
2	77	66	143	31	24	55	21.6	16.8	38.5	40.3	36.4
3	86	50	136	31	19	50	22.8	13.2	36.8	36.0	38.0
4	73	75	148	26	34	60	17.6	23.0	40.5	35.6	40.0
5	45	67	112	22	27	49	19.6	24.1	43.8	48.9	40.1
6	63	54	117	20	26	46	17.0	22.2	39.3	31.8	48.1
7	56	80	136	17	31	48	12.5	22.8	35.3	30.4	38.8
8	67	76	143	25	24	49	17.5	16.8	34.3	37.3	31.6
9	89	82	171	26	30	56	15.2	17.5	32.7	29.2	36.6
10	88	85	173	30	33	63	17.3	19.1	36.4	34.1	38.8
11	83	48	131	23	27	50	17.6	20.6	38.2	27.7	56.3
12	70	77	147	27	34	61	18.4	23.1	41.5	38.6	44.2
OR[2]	8	3	11	6	3	9	54.5	27.3	81.8	75.0	100.00
Totals	915	850	1765	344	343	687	19.5	19.4	38.9	37.6	40.4

[1] Does not include kindergarten

[2] Opportunity Room

Table II

Summary of the Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy by Grades

Grade	Sex M	Sex F	Total No. of Children	Problems: Artic.	Problems: Artic.-Voice	Problems: Voice	Problems: Fluency	Problems: Lang.	Total No. of Problems	Severity: Mild	Severity: Mod.	Severity: Severe	Recommendation: Recheck	Recommendation: Therapy
1	60	31	91	56	19	15	1	1	92[1]	26	49	16	71	20
2	31	24	55	28	11	15	1	0	55	17	33	5	47	8
3	31	19	50	22	12	15	1	0	50	6	40	4	40	10
4	26	34	60	27	14	19	0	0	60	6	46	8	51	9
5	22	27	49	22	12	14	1	0	49	10	34	5	39	10
6	20	26	46	23	8	13	2	0	46	9	33	4	39	7
7	17	31	48	34	7	7	0	0	48	21	24	3	42	6
8	25	24	49	32	9	6	5	0	52[2,3]	24	23	2	43	6
9	26	30	56	31	7	17	1	0	56	25	31	0	52	4
10	30	33	63	40	7	16	2	0	65[2,4]	27	36	0	53	10
11	23	27	50	33	8	9	0	0	50	28	21	1	43	7
12	27	34	61	43	10	8	0	0	61	28	33	0	51	10
Total	338	340	678	391	124	154	14	1	684	227	403	48	571	107
OR*	6	3	9	6	2	1	0	0	9	3	4	2	7	2
K**	2	0	2	2	0	0	0	0	2	0	0	2	0	2
Total	346	343	689	399	126	155	14	1	695	230	407	52	578	111

OR = Opportunity Room
K = Kindergarten

[1] Includes an individual with both articulation-voice and language problems

[2] Includes an individual with both articulation and fluency problems

[3] Includes two individuals with both articulation-voice and fluency problems

[4] Includes an individual with both articulation-voice and fluency problems

Table III

Summary of Distribution of Speech Disorders by Grades and Sex

	Total Speech Problems		Artic.		Artic.-Voice		Voice		Fluency		Lang.	
Grade	M	F	M	F	M	F	M	F	M	F	M	F
1	61[1]	31	40	16	13	6	6	9	1	0	1	0
2	31	24	20	8	5	6	7	8	0	1	0	0
3	31	19	14	8	7	5	9	6	1	0	0	0
4	26	34	11	16	7	7	8	11	0	0	0	0
5	22	27	11	11	4	8	6	8	1	0	0	0
6	20	26	9	14	3	5	7	6	1	1	0	0
7	17	31	13	21	4	3	0	7	0	0	0	0
8	27[2,3]	25[3]	15	17	4	5	4	2	4	1	0	0
9	26	30	15	16	1	6	9	8	1	0	0	0
10	32[2,3]	33	19	21	3	4	8	8	2	0	0	0
11	23	27	15	18	5	3	3	6	0	0	0	0
12	27	34	17	26	7	3	3	5	0	0	0	0
Total	343	341	199	192	63	61	70	84	11	3	1	0
*OR	6	3	5	1	1	1	0	1	0	0	0	0
**K	2	0	2	0	0	0	0	0	0	0	0	0
Total	351	344	206	193	64	62	70	85	11	3	1	0

*OR = Opportunity Room

**K = Kindergarten

[1] Includes an individual with both articulation-voice and language problems.

[2] Includes an individual with both articulation and fluency problems.

[3] Includes an individual with both articulation-voice and fluency problems.

Table IV

Incidence of Articulation Disorders by Grade and Sex

Grade	School Population			Students with Problem							
	M	F	Total	No.M	% of Gr.	No.F	% of Gr.	Total No.	% of Gr.	% of M	% of F
1	110	87	197	40	20.3	16	8.1	56	28.4	36.3	18.4
2	77	66	143	20	14.0	8	5.6	28	19.6	26.0	12.1
3	86	50	136	14	10.3	8	5.9	22	16.2	16.3	16.0
4	73	75	148	11	7.4	16	10.8	27	18.2	15.1	21.3
5	45	67	112	11	9.8	11	9.8	22	19.6	24.4	16.4
6	63	54	117	9	7.7	14	12.0	23	19.7	14.4	25.9
7	56	80	136	13	9.6	21	15.4	34	25.0	23.2	26.3
8	67	76	143	15	10.5	17	11.9	32	22.3	22.4	22.4
9	89	82	171	15	8.8	16	9.4	31	18.1	16.9	19.5
10	88	85	173	19	11.0	21	12.1	40	23.1	21.6	25.9
11	83	48	131	15	11.5	18	13.7	33	25.2	18.1	37.5
12	70	77	147	17	11.6	26	17.7	43	29.3	24.3	33.8
OR*	8	3	11	5	45.5	1	9.1	6	54.5	62.5	33.3
Total	915	850	1765	204	11.6	193	10.9	397	22.5	22.3	23.7

*Opportunity Room

Table V

Incidence of Articulation-Voice Disorders by Grade and Sex

Grade	M	F	Total	No. M.	% of Gr.	No.F.	% of Gr.	Total No.	% of Gr.	% of M.	% of F.
1	110	87	197	13	6.6	6	30.5	19	9.6	11.8	6.9
2	77	66	143	5	3.5	6	4.2	11	7.7	6.5	9.1
3	86	50	136	7	5.1	5	3.7	12	8.8	8.1	10.0
4	73	75	148	7	4.7	7	4.7	14	9.5	9.6	9.3
5	45	67	112	4	3.6	8	7.1	12	10.7	8.9	11.9
6	63	54	117	3	2.6	5	4.3	8	6.8	4.8	9.3
7	56	80	136	4	2.9	3	2.2	7	5.1	7.1	3.8
8	67	76	143	4	2.8	5	3.5	9	6.3	6.0	6.6
9	89	82	171	1	.6	6	3.5	7	4.1	1.1	7.3
10	88	85	173	3	1.7	4	2.3	7	4.0	3.4	4.7
11	83	48	131	5	3.8	3	2.3	8	6.1	6.0	6.3
12	70	77	147	7	4.8	3	2.0	10	6.8	10.0	3.9
OR*	8	3	11	1	9.1	1	9.1	2	18.2	12.5	33.3
Total	915	850	1765	64	3.6	62	3.5	126	7.1	7.0	7.3

*Opportunity Room

Table VI

Incidence of Vcice Disorders by Grade and Sex

	School Population			Students with Problem							
Grade	M	F	Total	No.M	% of Gr.	No.F.	% of Gr.	Total No.	% of Gr.	% of M	% of F
1	110	87	197	6	3.0	9	4.6	15	7.6	5.5	10.3
2	77	66	143	7	4.9	8	5.6	15	10.5	9.1	12.1
3	86	50	136	9	6.6	6	4.4	15	11.0	10.5	12.0
4	73	75	148	8	5.4	11	7.4	19	12.8	11.0	14.7
5	45	67	112	6	5.4	8	7.1	14	12.5	13.3	12.0
6	63	54	117	7	6.0	6	5.1	13	11.1	11.1	11.1
7	56	80	136	0	0.0	7	5.1	7	5.1	0.0	8.8
8	67	76	143	4	2.8	2	1.4	6	4.2	6.0	2.6
9	89	82	171	9	5.3	8	4.7	17	9.9	10.1	9.8
10	88	85	173	8	4.6	8	4.6	16	9.3	9.1	9.4
11	83	48	131	3	2.3	6	4.6	9	6.9	3.6	1.3
12	70	77	147	3	2.0	5	3.4	8	5.5	4.3	6.5
OR*	8	3	11	0	0.0	1	9.1	1	9.1	0.0	33.3
Total	915	850	1765	70	4.0	85	4.8	155	8.8	7.7	10.0

*Opportunity Room

Table VII

Incidence of Fluency Disorders by Grade and Sex

	School Population			Students with Problem							
Grade	M	F	Total	No. M	% of Gr.	No. F	% of Gr.	Total No.	% of Gr.	% of M	% of F
1	110	87	197	1	.5	0	.0	1	.5	.9	.0
2	77	66	143	0	.0	1	.7	1	.7	.0	1.5
3	86	50	136	1	.7	0	.0	1	.7	1.2	.0
4	73	75	148	0	.0	0	.0	0	.0	.0	.0
5	45	67	112	1	.9	0	.0	1	.9	2.2	.0
6	63	54	117	1	.9	1	.9	2	1.7	1.6	1.9
7	56	80	136	0	.0	0	.0	0	.0	.0	.0
8	67	76	143	4	2.8	1	.7	5	3.5	6.0	1.3
9	89	82	171	1	.6	0	.0	1	.6	1.1	.0
10	88	85	173	2	1.2	0	.0	2	1.2	2.3	.0
11	83	48	131	0	.0	0	.0	0	.0	.0	.0
12	70	77	147	0	.0	0	.0	0	.0	.0	.0
OR*	8	3	11	0	.0	0	.0	0	.0	.0	.0
Total	915	850	1765	11	.6	3	.2	14	.8	1.2	.4

*Opportunity Room

Table VIII

Summary of Distribution of Severity Ratings by Grades and Sex

	Severity							
	Mild		Moderate		Severe		Total Number of Students	
Grade	M	F	M	F	M	F	Male	Female
1	14	12	31	18	15	1	60	31
2	12	5	16	17	4	1	32	23
3	3	3	24	16	4	0	31	19
4	2	4	19	27	5	3	26	34
5	8	2	12	22	2	3	22	27
6	5	4	13	20	2	2	20	26
7	9	12	6	18	2	1	17	31
8	12	12	11	12	2	0	25	24
9	11	14	15	16	0	0	26	30
10	10	17	20	16	0	0	30	33
11	12	16	11	10	0	1	23	27
12	10	18	17	16	0	0	27	34
Total	108	119	195	208	36	12	339	339
*OR	1	2	3	1	2	0	6	3
**K	0	0	0	0	2	0	2	0
Total	109	121	198	209	40	12	347	342

*OR = Opportunity Room

**K = Kindergarten

Table IX

Incidence of Males and Females with Speech Disorders by Schools

School	School Population			No. of Speech Problems			% of School Population				
	M	F	Total	M	F	Total	M	F	Total	% of M	% of F
Hillcrest	144	125	269	50	41	91	18.6	15.2	33.8	34.7	32.8
Lindgren	87	70	157	39	27	66	24.8	17.2	42.0	44.8	38.6
Maiden Rock	49	49	98	20	23	43	20.4	23.5	43.9	40.8	46.9
Prairie View	111	89	200	48	36	84	24.0	18.0	42.0	43.2	40.4
Sunnyside	71	69	140	39	37	76	27.9	26.4	54.3	54.9	53.6
Jr. High	212	238	450	68	85	153	15.1	18.9	34.0	32.1	35.7
Sr. High	241	210	451	80	94	174	17.7	20.8	38.6	33.2	44.8
Total	915	850	1765	344	343	687	19.5	19.4	38.9	37.6	40.4

Table X

Summary and Incidence of the Various Speech Disorders by Schools

				Problems							
	Total Problems			Artic.-Voice		Voice		Fluency		Lang.	
School		No.	%	No.	%	No.	%	No.	%	No.	%
Hillcrest	91	53	58.2	11	12.1	25	27.5	2	2.2	0	.0
Lindgren	66	32	47.4	14	21.2	18	27.3	2	3.0	0	.0
Maiden Rock	43	21	48.8	13	30.2	9	20.9	0	.0	0	.0
Prairie View	86	40	46.5	19	22.1	27	31.4	0	.0	0	.0
Sunnyside	77	40	51.9	21	27.3	13	16.9	2	2.6	1	1.3
Jr. High	156	97	62.1	23	14.7	30	19.2	6	3.8	0	.0
Sr. High	176	116	65.9	25	14.2	33	18.2	2	1.1	0	.0
Total	695	399	57.4	126	18.1	155	22.3	14	2.0	1	.1

Table XI

Summary and Incidence of the Severity Ratings and Recommendations for Therapy
By Schools

School	Total Problems	Severity						Recommend			
		Mild		Moderate		Severe		Recheck		Therapy	
		No.	%	No.	%	No.	%	No.	%	No.	%
Hillcrest	91	31	34.1	47	51.6	13	14.3	73	80.2	18	19.8
Lindgren	66	13	19.7	45	68.2	8	12.1	48	72.7	18	27.3
Maiden Rock	43	9	20.9	32	74.4	2	4.7	40	93.0	3	7.0
Prairie View	86	17	19.8	60	69.8	9	10.5	78	90.7	8	9.3
Sunnyside	77	7	9.1	55	71.4	14	18.2	55	71.4	21	27.3
Jr. High	156	70	44.9	78	50.0	5	3.2	137	87.8	16	10.3
Sr. High	176	83	47.1	90	51.1	1	.6	147	83.5	27	15.3
Total	695	230	34.5	407	58.4	52	7.5	578	83.2	111	15.8

Table XII

Incidence of Males and Females with Speech Disorders in the Hillcrest Elementary School

	School Population			No. with Problems			% of Grade				
Grade	M	F	Total	M	F	Total	M	F	Total	% of M.	% of F.
1	36	28	64	21	11	32	32.8	17.2	50.0	58.3	39.3
2	21	17	38	9	5	14	23.7	13.2	36.9	42.9	29.4
3	30	18	48	10	5	15	20.8	10.4	31.3	33.3	27.8
4	20	23	43	3	7	10	7.0	16.3	23.3	15.0	30.4
5	15	23	38	4	7	11	10.5	18.4	28.9	26.7	29.2
6	22	16	38	3	6	9	7.9	15.8	23.7	13.6	37.5
Total	144	125	269	50	41	91	18.6	15.2	33.8	34.7	32.8

Table XIII

Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy In The Hillcrest Elementary School

Grade	School Population			Problems						Severity			Recommend	
	M	F	Total No.	Artic.	Artic Voice	Voice	Fluency	Lang.	Total Problems	Mild	Mod.	Severe	Recheck	Therapy
1	21	11	32	20	5	6	1	0	32	16	11	5	26	6
2	9	5	14	9	4	1	0	0	14	6	5	3	10	4
3	10	5	15	7	0	8	0	0	15	2	10	3	12	3
4	3	7	10	6	1	3	0	0	10	4	5	1	8	2
5	4	7	11	7	0	4	0	0	11	2	9	0	9	2
6	3	6	9	4	1	3	1	0	9	1	7	1	8	1
Total	50	41	91	53	11	25	2	0	91	31	47	13	73	18

Table XIV

Distribution of Speech Disorders and Severity Ratings by Sex in Hillcrest Elementary School

	Problem											Severity								
	Artic.		Artic-Voice		Voice		Fluency		Total			Mild		Mod.		Severe		Total		
Grade	M	F	M	F	M	F	M	F	M	F	Total	M	F	M	F	M	F	M	F	Total
1	14	6	3	2	3	3	1	0	21	11	32	8	8	8	3	5	0	21	11	32
2	7	2	1	3	1	0	0	0	9	5	14	3	3	4	1	2	1	9	5	14
3	6	1	0	0	4	4	0	0	10	5	15	1	1	6	4	3	0	10	5	15
4	1	5	1	0	1	2	0	0	3	7	10	1	3	2	3	0	1	3	7	10
5	2	5	0	0	2	2	0	0	4	7	11	1	1	3	6	0	0	4	7	11
6	1	3	0	1	2	1	0	1	3	6	9	1	0	2	5	0	1	3	6	9
Total	31	22	5	6	13	12	1	1	50	41	91	15	16	25	22	10	3	50	41	91

Table XV

Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy In Hillcrest Elementary School by Teachers

		School Population			Problems									
										Severity			Recommend	
Grade	Teacher	M	F	Total No.	Artic.	Artic-Voice	Voice	Fluency	Lang.	Mild	Mod.	Severe	Recheck	Therapy
1	Christenson	14	5	19	15	1	2	1	0	10	7	2	16	3
1	Balck	7	6	13	5	4	4	0	0	6	4	3	10	3
2	Ostrander	6	1	7	6	1	0	0	0	1	3	3	3	4
2	Gerrish	3	4	7	3	3	1	0	0	5	2	0	7	0
3	Carpenter	3	2	5	3	0	2	0	0	1	3	1	4	1
3	Floody	7	3	10	4	0	6	0	0	1	7	2	8	2
4	Carpenter	1	2	3	2	0	1	0	0	1	2	0	3	0
4	Gustafson	2	5	7	4	1	2	0	0	3	3	1	5	2
5	Riester	4	6	10	6	0	4	0	0	2	8	0	8	2
5	Churchill	0	1	1	1	0	0	0	0	0	1	0	1	0
6	Birkel	3	5	8	4	1	2	1	0	1	6	1	7	1
6	Churchill	0	1	1	0	0	1	0	0	0	1	0	1	0
Total		50	41	91	53	11	25	2	0	31	47	13	73	18

Table XVI

Incidence of Males and Females with Speech Disorders in Lindgren Elementary School

	School Population			No. of Speech Problems			% of Grade				
Grade	M	F	Total	M	F	Total	M	F	Total	% of M.	% of F.
1	16	16	32	7	5	12	21.9	15.6	37.5	43.8	31.3
2	15	12	27	8	6	14	29.6	22.2	51.9	53.3	50.0
3	20	10	30	6	3	9	20.0	10.0	30.0	30.0	30.0
4	13	9	22	5	3	8	22.7	13.6	36.4	38.5	33.3
5	8	11	19	5	5	10	26.3	26.3	52.6	62.5	45.5
6	7	9	16	2	2	4	12.5	12.5	25.0	28.6	22.2
Total	79	67	146	33	24	57	22.6	16.4	39.0	41.8	35.8
OR*	8	3	11	6	3	9	54.5	27.3	81.8	75.0	100.0
Total	87	70	157	39	27	66	24.8	17.2	42.0	44.8	38.6

*Opportunity Room

Table XVII

Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy In the Lindgren Elementary School

	School Population			Problems										
										Severity			Recommend	
Grade	M	F	Total No.	Artic.	Artic. Voice	Voice	Fluency	Lang.	Total Problems	Mild	Mod.	Severe	Recheck	Therapy
1	7	5	12	8	2	2	0	0	12	2	9	1	8	4
2	8	6	14	6	2	6	0	0	14	5	8	1	11	3
3	6	3	9	4	2	3	0	0	9	1	8	0	8	1
4	5	3	8	1	4	3	0	0	8	0	7	1	6	2
5	5	5	10	5	2	2	1	0	10	0	8	2	5	5
6	2	2	4	2	0	1	1	0	4	2	1	1	3	1
Total	33	24	57	26	12	17	2	0	57	10	41	6	41	16
OR*	6	3	9	6	2	1	0	0	9	3	4	2	7	2
Total	39	27	66	32	14	18	2	0	66	13	45	8	48	18

OR* = Opportunity Room

Table XVIII

Distribution of Speech Disorders and Severity Ratings by Sex in Lindgren Elementary School

	Problem											Severity								
	Artic.		Artic. Voice		Voice		Fluency		Total			Mild		Mod.		Severe		Total		
Grade	M	F	M	F	M	F	M	F	M	F	Total	M	F	M	F	M	F	M	F	Total
1	6	2	1	1	0	2	0	0	7	5	12	0	2	6	3	1	0	7	5	12
2	5	1	1	1	2	4	0	0	8	6	14	3	2	4	4	1	0	8	6	14
3	3	1	1	1	2	1	0	0	6	3	9	1	0	5	3	0	0	6	3	9
4	1	0	3	1	1	2	0	0	5	3	8	0	0	4	3	1	0	5	3	8
5	2	3	1	1	1	1	1	0	5	5	10	0	0	4	4	1	1	5	5	10
6	1	1	0	0	0	1	1	0	2	2	4	1	1	0	1	1	0	2	2	4
OR*	5	1	1	1	0	1	0	0	6	3	9	1	2	3	1	2	0	6	3	9
Total	23	9	8	6	6	12	2	0	39	27	66	6	7	26	19	7	1	39	27	66

OR* = Opportunity Room

Table XIX

Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy
In Lindgren Elementary School by Teachers

		School Population			Problems									
										Severity			Recommend	
Grade	Teacher	M	F	Total No.	Artic.	Artic-Voice	Voice	Fluency	Lang.	Mild	Mod.	Severe	Recheck	Therapy
1	Irvine	7	5	12	8	2	2	0	0	2	9	1	8	4
2	Steltzner	8	6	14	6	2	6	0	0	5	8	1	11	3
3	Felt	6	3	9	4	2	3	0	0	1	8	0	8	1
4	Falkofske	5	3	8	1	4	3	0	0	0	7	1	6	2
5	Svec	5	5	10	5	2	2	1	0	0	8	2	5	5
6	Dickie	2	2	4	2	0	1	1	0	2	1	1	3	1
Total		33	24	57	26	12	17	2	0	10	41	6	41	16
OR*	Keep	6	3	9	6	2	1	0	0	3	4	2	7	2
Total		39	27	66	32	14	18	2	0	13	45	8	48	18

OR* = Opportunity Room

Table XX

Incidence of Males and Females with Speech Disorders in Maiden Rock Elementary School

	School Population			No. with Problems			% of Grade				
Grade	M	F	Total	M	F	Total	M	F	Total	% of M.	% of F.
1	14	10	24	7	1	8	29.2	4.2	33.4	50.0	10.0
2	8	5	13	1	1	2	7.7	7.7	15.4	12.5	20.0
3	8	3	11	2	3	5	18.2	27.3	45.5	25.0	100.0
4	4	12	16	3	7	10	18.8	43.8	62.6	75.0	58.3
5	4	10	14	3	5	8	21.4	35.7	57.1	75.0	50.0
6	11	9	20	4	6	10	20.0	30.0	50.0	36.4	66.7
Total	49	49	98	20	23	43	20.4	23.5	43.9	40.8	46.9

Table XXI

Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy In Maiden Rock Elementary School

	School Population			Problems										
										Severity			Recommend	
Grade	M	F	Total No.	Artic.	Artic-Voice	Voice	Fluency	Lang.	Total Problems	Mild	Mod.	Severe	Recheck	Therapy
1	7	1	8	6	1	1	0	0	8	3	4	1	7	1
2	1	1	2	2	0	0	0	0	2	1	1	0	2	0
3	2	3	5	2	2	1	0	0	5	1	4	0	5	0
4	3	7	10	6	2	2	0	0	10	1	9	0	9	1
5	3	5	8	2	4	2	0	0	8	1	6	1	7	1
6	4	6	10	3	4	3	0	0	10	2	8	0	10	0
Total	20	23	43	21	13	9	0	0	43	9	32	2	40	3

Table XXII

Distribution of Speech Disorders and Severity Ratings by Sex in Maiden Rock Elementary School

	Problem											Severity								
	Artic.		Artic.-Voice		Voice		Fluency		Total			Mild		Mod.		Severe		Total		
Grade	M	F	M	F	M	F	M	F	M	F	Total	M	F	M	F	M	F	M	F	Total
1	5	1	1	0	1	0	0	0	7	1	8	2	1	4	0	1	0	7	1	8
2	1	1	0	0	0	0	0	0	1	1	2	1	0	0	1	0	0	1	1	2
3	0	2	1	1	1	0	0	0	2	3	5	0	1	2	2	0	0	2	3	5
4	3	3	0	2	0	2	0	0	3	7	10	1	0	2	7	0	0	3	7	10
5	1	1	2	2	0	2	0	0	3	5	8	1	0	2	4	0	1	3	5	8
6	1	2	1	3	2	1	0	0	4	6	10	1	1	3	5	0	0	4	6	10
Total	11	10	5	8	4	5	0	0	20	23	43	6	3	13	19	1	1	20	23	43

Table XXIII

Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy
In Maiden Rock Elementary School by Teachers

		School Population			Problems									
										Severity			Recommend	
Grade	Teacher	M	F	Total No.	Artic.	Artic. Voice	Voice	Fluency	Lang.	Mild	Mod.	Severe	Recheck	Therapy
1	Brown	7	1	8	6	1	1	0	0	3	4	1	7	1
2	White	1	1	2	2	0	0	0	0	1	1	0	2	0
3	White	2	3	5	2	2	1	0	0	1	4	0	5	0
4	Julian	3	7	10	6	2	2	0	0	1	9	0	9	1
5	Julian	3	1	4	2	2	0	0	0	1	3	0	4	0
5	Berktold	0	4	4	0	2	2	0	0	0	3	1	3	1
6	Berktold	4	6	10	3	4	3	0	0	2	8	0	10	0
Total		20	23	43	21	13	9	0	0	9	32	2	40	3

Table XXIV

Incidence of Males and Females with Speech Disorders in Prairie View Elementary School

	School Population			No. with Problems			% of Grade				
Grade	M	F	Total	M	F	Total	M	F	Total	% of M.	% of F.
1	27	18	45	15	6	21	33.3	13.3	46.7	55.6	33.3
2	23	17	40	8	5	13	20.0	12.5	32.5	34.8	29.4
3	16	11	27	7	4	11	25.9	14.8	40.7	43.8	36.4
4	25	18	43	9	9	18	20.9	20.9	41.9	36.0	50.0
5	10	14	24	5	5	10	20.8	20.8	41.7	50.0	35.7
6	10	11	21	4	7	11	19.0	33.3	52.4	40.0	63.6
Total	111	89	200	48	36	84	24.0	18.0	42.0	43.2	40.4

Table XXV

Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy
In Prairie View Elementary School

	School Population			Problems						Severity			Recommend	
Grade	M	F	Total No.	Artic.	Artic-Voice	Voice	Fluency	Lang.	Total Problems	Mild	Mod.	Severe	Recheck	Therapy
K	2	0	2	2	0	0	0	0	2	0	0	2	0	2
1	15	6	21	14	3	4	0	0	21	4	14	3	18	3
2	8	5	13	4	4	5	0	0	13	4	8	1	13	0
3	7	4	11	5	4	2	0	0	11	2	9	0	10	1
4	9	9	18	6	4	8	0	0	18	1	14	3	17	1
5	5	5	10	4	2	4	0	0	10	4	6	0	10	0
6	4	7	11	5	2	4	0	0	11	2	9	0	10	1
Total	50	36	86	40	19	27	0	0	86	17	60	9	78	8

Table XXVI

Distribution of Speech Disorders and Severity Ratings by Sex in Prairie View Elementary School

	Problem											Severity								
	Artic.		Artic-Voice		Voice		Fluency		Total			Mild		Mod.		Severe		Total		
Grade	M	F	M	F	M	F	M	F	M	F	Total	M	F	M	F	M	F	M	F	Total
K	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	0	2	0	2
1	11	3	2	1	2	2	0	0	15	6	21	4	0	8	6	3	0	15	6	21
2	4	0	2	2	2	3	0	0	8	5	13	4	0	3	5	1	0	8	5	13
3	3	2	3	1	1	1	0	0	7	4	11	1	1	6	3	0	0	7	4	11
4	3	3	1	3	5	3	0	0	9	9	18	0	1	6	8	3	0	9	9	18
5	3	1	0	2	2	2	0	0	5	5	10	4	0	1	5	0	0	5	5	10
6	1	4	1	1	2	2	0	0	4	7	11	0	2	4	5	0	0	4	7	11
Total	27	13	9	10	14	13	0	0	50	36	86	13	4	28	32	9	0	50	36	86

Table XXVII

Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy
In Prairie View Elementary School by Teachers

Grade	Teacher	School Population			Problems					Severity			Recommend	
		M	F	Total No.	Artic.	Artic-Voice	Voice	Fluency	Lang.	Mild	Mod.	Severe	Recheck	Therapy
K	Larson	2	0	2	2	0	0	0	0	0	0	2	0	2
1	Baumgartner	9	5	14	10	3	1	0	0	2	10	2	12	2
1	Nesseth	6	1	7	4	0	3	0	0	2	4	1	6	1
2	Swanson	7	5	12	4	3	5	0	0	4	7	1	12	0
2	Nesseth	1	0	1	0	1	0	0	0	0	1	0	1	0
3	Johnson	7	4	11	5	4	2	0	0	2	9	0	10	1
4	Vinge	3	4	7	3	2	2	0	0	1	6	0	7	0
4	Christenson	6	5	11	3	2	6	0	0	0	8	3	10	1
5	Gerdes	5	5	10	4	2	4	0	0	4	6	0	10	0
6	Falkofske	4	7	11	5	2	4	0	0	2	9	0	10	1
Total		50	36	86	40	19	27	0	0	17	60	9	78	8

Table XXVIII

Incidence of Males and Females with Speech Disorders in Sunnyside Elementary School

Grade	School Population			No. with Problems			% of grade				
	M	F	Total	M	F	Total	M	F	Total	% of M.	% of F.
1	17	15	32	10	8	18	31.3	25.0	56.3	58.8	53.3
2	10	15	25	5	7	12	20.0	28.0	48.0	50.0	46.7
3	12	8	20	6	4	10	30.0	20.0	50.0	50.0	50.0
4	11	13	24	6	8	14	25.0	33.3	58.3	54.5	61.5
5	8	9	17	5	5	10	29.4	29.4	58.8	62.5	55.6
6	13	9	22	7	5	12	31.8	22.7	54.5	53.8	55.6
Total	71	69	140	39	37	76	27.9	26.4	54.3	54.9	53.6

Table XXIX

Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy
In Sunnyside Elementary School

Grade	School Population			Problems						Severity			Recommend	
	M	F	Total No.	Artic.	Artic-Voice	Voice	Fluency	Lang.	Total Problems	Mild	Mod.	Severe	Recheck	Therapy
1	10	8	18	8	8	2	0	1	19*	1	11	6	12	6
2	5	7	12	7	1	3	1	0	12	1	11	0	11	1
3	6	4	10	4	4	1	1	0	10	0	9	1	5	5
4	6	8	14	8	3	3	0	0	14	0	11	3	11	3
5	5	5	10	4	4	2	0	0	10	3	5	2	8	2
6	7	5	12	9	1	2	0	0	12	2	8	2	8	4
Total	39	37	76	40	21	13	2	1	77	7	55	14	55	21

*Includes one individual with both language and articulation-voice disorders.

Table XXX

Distribution of Speech Disorders and Severity Ratings by Sex in Sunnyside Elementary School

	Problems													Severity								
	Artic.		Artic. Voice		Voice		Fluency		Lang.		Total			Mild		Mod.		Severe		Total		
Grade	M	F	M	F	M	F	M	F	M	F	M	F	Total	M	F	M	F	M	F	M	F	Total
1	4	4	6	2	0	2	0	0	1	0	11*	8	19	0	1	5	6	5	1	10	8	18
2	3	4	0	1	2	1	0	1	0	0	5	7	12	1	0	4	7	0	0	5	7	12
3	2	2	2	2	1	0	1	0	0	0	6	4	10	0	0	5	4	1	0	6	4	10
4	3	5	2	1	1	2	0	0	0	0	6	8	14	0	0	5	6	1	2	6	8	14
5	3	1	1	3	1	1	0	0	0	0	5	5	10	2	1	2	3	1	1	5	5	10
6	5	4	1	0	1	1	0	0	0	0	7	5	12	2	0	4	4	1	1	7	5	12
Total	20	20	12	9	6	7	1	1	1	0	40*	37	77*	5	2	25	30	9	5	39	37	76

*Includes one individual with both articulation and language disorders

TABLE XXXI

Distribution of Speech Disorders Severity Ratings and Recommendations for Therapy
In Sunnyside Elementary School by Teachers

		School Population			Problems					Severity			Recommend	
Grade	Teacher	M	F	Total No.	Artic.	Voice	Artic-Voice	Fluency	Lang.	Mild	Mod.	Severe	Recheck	Therapy
1	Steiner	10	8	18*	8	8	2	0	1	1	11	6	12	6
2	Bauer	5	7	12	7	1	3	1	0	1	11	0	11	1
3	Fellenz	6	4	10	4	4	1	1	0	0	9	1	5	5
4	Webster	6	8	14	8	3	3	0	0	0	11	3	11	3
5	Skrutvold	5	5	10	4	4	2	0	0	3	5	2	8	2
6	Broen	7	5	12	9	1	2	0	0	2	8	2	8	4
Total		39	37	76	40	21	13	2	1	7	55	14	55	21

*Includes an individual with articulation-voice and language problems

Table XXXII

Incidence of Males and Females with Speech Disorders in Ellsworth Junior High School

	School Population			No. with Problems			% of Grade				
Grade	M	F	Total	M	F	Total	M	F	Total	% of M.	% of F.
7	56	80	136	17	31	48	12.5	22.8	36.3	30.4	38.8
8	67	76	143	25	24	49	17.5	16.8	34.3	37.3	31.6
9	89	82	171	26	30	56	15.2	17.5	32.8	29.2	36.7
Total	212	238	450	68	85	153	15.1	18.9	34.0	32.1	35.7

Table XXXIII

Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy In Ellsworth Junior High School

Grade	School Population			Problems						Severity			Recommend	
	M	F	Total No.	Artic.	Artic-Voice	Voice	Fluency	Lang.	Total Problems	Mild	Mod.	Severe	Recheck	Therapy
7	17	31	48	34	7	7	0	0	48	21	24	3	42	6
8	25	24	49*	32	9	6	5	0	52	24	23	2	43	6
9	26	30	56	31	7	17	1	0	56	25	31	0	52	4
Total	68	85	153	97	23	30	6	0	156	70	78	5	137	16

*Includes one female and one male with articulation-voice and fluency problem and one male with articulation and fluency problem.

Table XXXIV

Distribution of Speech Disorders and Severity Ratings by Sex in Ellsworth Junior High School

	Problems											Severity								
	Artic.		Artic-Voice		Voice		Fluency		Total			Mild		Mod.		Severe		Total		
Grade	M	F	M	F	M	F	M	F	M	F	Total	M	F	M	F	M	F	M	F	Total
7	13	21	4	3	0	7	0	0	17	31	48	9	12	6	18	2	1	17	31	48
8	15	17	4	5	4	2	4	1	27	25*	52	12	12	11	12	2	0	25	24	49
9	15	16	1	6	9	8	1	0	26	30	56	11	14	15	16	0	0	26	30	56
Total	43	54	9	14	13	17	5	1	70	86	156	32	38	32	46	4	1	68	85	153

*Includes two individuals with articulation and fluency, and one individual with articulation-voice and fluency problems.

Table XXXV

Incidence of Males and Females with Speech Disorders in Ellsworth Senior High School

	School Population			No. with Problems			% of Grade				
Grade	M	F	Total	M	F	Total	M	F	Total	% of M.	% of F.
10	88	85	173	30	33	63	17.3	19.0	36.4	34.0	38.8
11	83	48	131	23	27	50	14.3	16.8	31.0	27.7	56.3
12	70	77	147	27	34	61	18.4	23.1	41.5	38.6	44.2
Total	241	210	451	80	94	174	17.7	20.8	38.6	33.2	44.8

Table XXXVI

Distribution of Speech Disorders, Severity Ratings and Recommendations for Therapy In Ellsworth Senior High School

	School Population			Problems						Severity			Recommend	
Grade	M	F	Total No.	Artic.	Artic-Voice	Voice	Fluency	Lang.	Total Problems	Mild	Mod.	Severe	Recheck	Therapy
10	30	33	63	40	7	16	2	0	65*	27	36	0	53	10
11	23	27	50	33	8	9	0	0	50	28	21	1	43	7
12	27	34	61	43	10	8	0	0	61	28	33	0	51	10
Total	80	94	174	116	25	33	2	0	176	83	90	1	147	27

*Includes one male with articulation and fluency problems and one male with articulation-voice and fluency problems.

Table XXXVII

Distribution of Speech Disorders[1] and Severity Ratings by Sex in Ellsworth Senior High School

	Problem											Severity								
	Artic.		Artic-Voice		Voice		Fluency		Total			Mild		Mod.		Severe		Total		
Grade	M	F	M	F	M	F	M	F	M	F	Total	M	F	M	F	M	F	M	F	Total
10	19	21	3	4	8	8	2	0	32	33	65[2]	10	17	20	16	0	0	30	33	63
11	15	18	5	3	3	6	0	0	23	27	50	12	16	11	10	0	1	23	27	50
12	17	26	7	3	3	5	0	0	27	34	61	10	18	17	16	0	0	27	34	61
Total	51	65	15	10	14	19	2	0	82	94	176[2]	32	51	48	42	0	1	80	94	174

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[1] There were no Language disorders

[2] Includes an individual with articulation and fluency disorders and one with articulation-voice and fluency disorders.

School Hillcrest

Grade 1

Teacher Mrs. Christenson

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Armbruster, Lori	articulation	mild	recheck
Bergman, Jim	voice	moderate	recheck
Borst, Vicki	articulation	mild	recheck
Buck, Julie	articulation	mild	recheck
Christenson, Greg	articulation	mild	recheck
Degross, Ben	articulation	mild	recheck
Deiss, Joey	articulation	mild	recheck
Donnelly, Danny	articulation	moderate	recheck
Doucette, Keith	nonfluency	moderate	therapy
Drewiske, Roger	voice	mild	recheck
Gutting, Gloria	articulation-voice	moderate	recheck
Jilk, Tommy	articulation	severe	therapy
Kinneman, Becky	articulation	mild	recheck
Mark, Jeffrey	articulation	severe	therapy
Most, Tony	articulation	mild	recheck
Pearson, Mark	articulation	moderate	recheck
Samuel, Jim	articulation	moderate	recheck
Swilmann, Bruce	articulation	mild	recheck
Yanisch, Billy	articulation	moderate	recheck

School Hillcrest

Grade 1

Teacher Lois Black

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Blue, Johnny	articulation-voice	severe	therapy
Borst, Jim	articulation	severe	therapy
Eaton, Steve	articulation	severe	therapy
Fuller, Mary	voice	mild	recheck
Hager, Roger	articulation	mild	recheck
Kirchner, Gregory	voice	moderate	recheck
Kirchner, Susan	articulation-voice	moderate	recheck
Kraemer, David	articulation-voice	mild	recheck
Lamberg, Karen	voice	moderate	recheck
Nickel, Lynette	articulation	mild	recheck
Ray, Patty	voice	mild	recheck
Sauerwein, Kent	articulation-voice	moderate	recheck
Swanson, Kathy	articulation	mild	recheck

School Hillcrest

Grade 2

Teacher Mrs. Gerrish

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Johas, Billy	voice	moderate	recheck
Jurgenson, Tom	articulation-voice	mild	recheck
Nadeau, Marlene	articulation-voice	moderate	recheck
Pulk, John	articulation	mild	recheck
Stern, Peggy	articulation-voice	mild	recheck
Swanson, Wendy	articulation	mild	recheck
Taplin, Pamela	articulation	mild	recheck

School Hillcrest

Grade 2

Teacher Ruth Ostrander

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anderson, Jackie	articulation-voice	severe	therapy
Coulson, Perry	articulation	moderate	therapy
Gilbertson, Jim	articulation	moderate	recheck
Huppert, Sheldon	articulation	mild	recheck
Knoll, Greg	articulation	moderate	recheck
Webster, Bruce	articulation	severe	therapy
Wirth, Kenneth	articulation	severe	therapy

School Hillcrest

Grade 3

Teacher Pearl Floody

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anderson, Mark	voice	severe	therapy
Dodge, Wendy	voice	moderate	recheck
Erickson, Carla	voice	moderate	recheck
Gulbranson, Robin	voice	moderate	recheck
Johnson, Gary D.	voice	moderate	recheck
Nickel, Renee	voice	moderate	recheck
Owen, Dennis	articulation	severe	therapy
Peterson, Kevin	articulation	moderate	recheck
Schulte, Wayne	articulation	mild	recheck
Winger, Kevin	articulation	moderate	recheck

School Hillcrest

Grade 3

Teacher Agnes Carpenter

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Beebe, Daniel	voice	moderate	recheck
Huppert, Larry	articulation	severe	therapy
Swanson, Nancy	articulation	mild	recheck
Thoner, Bryan	articulation	moderate	recheck
Webster, Dianne	voice	moderate	recheck

Grade 4

Fuller Elizabeth	articulation	mild	recheck
Larson, Julie	voice	moderate	recheck
Norderhaug, Michael	articulation	moderate	recheck

School Hillcrest

Grade 4

Teacher Ruth Gustafson

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Barringer, Marlene	articulation	moderate	recheck
Fischer, Fred	articulation-voice	moderate	recheck
Hove, Linda	articulation	severe	therapy
Hoyt, Jean	voice	moderate	therapy
Lund, Paul	voice	mild	recheck
Myer, Barbara	articulation	mild	recheck
Rolish, Mary	articulation	mild	recheck

School Hillcrest

Grade 5

Teacher Mary Riester

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Beebe, Philip	articulation	mild	recheck
Bennet, Robert	articulation	moderate	recheck
Cook, Gale	voice	moderate	recheck
Eaton, Patty	voice	moderate	recheck
Foy, Charles	voice	moderate	recheck
Hager, Patricia	articulation	moderate	therapy
Haugrose, Margo	articulation	moderate	recheck
Johnson, Dianne	articulation	moderate	therapy
Myer, Gloria	voice	moderate	recheck
Snow, Joan	articulation	mild	recheck

School Hillcrest

Grade 5

Teacher Genevieve Churchill

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Meyer, Diane	articulation	moderate	recheck
Grade 6			
Ryden, Carleen	voice	moderate	recheck

School Hillcrest

Grade 6

Teacher John Birkel

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Fischer, Julie	articulation	moderate	recheck
Greeley, Susan	articulation	moderate	recheck
Gutting, Dianne	articulation	moderate	recheck
Huppert, Timmy	articulation	mild	recheck
Johnson, Janice	articulation-voice	moderate	recheck
Ryden, Marleen	fluency	severe	therapy
Skarman, Dennis	voice	moderate	recheck
Wirth, Russell	voice	moderate	recheck

School Lindgren

Grade 1

Teacher Violet Irvine

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Baker, Billy	articulation	moderate	recheck
Dahl, Jeff	articulation-voice	moderate	therapy
Feuerhelm, Kim	articulation-voice	moderate	recheck
Huber, Jane	voice	mild	recheck
Johnson, Donnie	voice	moderate	recheck
Lother, Randy	articulation	moderate	recheck
Miller, Michael	articulation	moderate	therapy
Roed, Paul	articulation	moderate	therapy
Sarnstrom, Danny	articulation	moderate	recheck
Schulte, Teresa	articulation	moderate	recheck
Smith, Dianna	articulation	mild	recheck
Taylor, Lynn	articulation	severe	therapy

School Lindgren

Grade 2

Teacher Beulah Steltzner

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Books, Cheryl	voice	moderate	recheck
Books, David	articulation	mild	recheck
Enberg, Mark	articulation-voice	severe	therapy
Feuerhelm, Tambi	voice	moderate	recheck
Hanson, Sandra	articulation	moderate	recheck
Haunschildt, Dani	articulation	mild	recheck
Johnson, Jean	articulation-voice	moderate	recheck
Klecker, Donald	articulation	moderate	therapy
Kolve, Gary	voice	moderate	recheck
Molander, Cheryl	voice	mild	recheck
Nelson, Lori	voice	moderate	recheck
Smith, John	articulation	mild	recheck
Steele, Rande	voice	moderate	recheck
Thalacker, Brian	articulation	moderate	therapy

School Lindgren

Grade 3

Teacher Vera Felt

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anderson, Kathy	voice	moderate	recheck
Dahl, Steven	voice	moderate	recheck
Feuerhelm, Nanette	articulation-voice	moderate	recheck
Feuerhelm, Rickie	voice	moderate	recheck
Freier, Danny	articulation	moderate	therapy
Johnson, Bradley	articulation-voice	moderate	recheck
Nelson, Sandra	articulation	moderate	recheck
Swanson, David	articulation	moderate	recheck
Traynor, Keith	articulation	mild	recheck

School Lindgren

Grade 4

Teacher Nellie Falkofske

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anders, Jeanette	voice	moderate	recheck
Hagemann, Richard	articulation-voice	moderate	therapy
Nelson, Terry	voice	moderate	recheck
Nelson, Thomas			recheck (hearing
O'Conner, Ronnie	articulation-voice	moderate	recheck
Sarnstrom, Betty	articulation-voice	moderate	recheck
Stockwell, Barry	articulation	severe	therapy
Stockwell, Samuel	articulation-voice	moderate	recheck
Stogdill, Melissa	voice	moderate	recheck

School Lindgren

Grade 5

Teacher Joyce Svec

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Freier, Kristine	articulation	severe	therapy
Geister, John	fluency	severe	therapy
Gotzman, Allan	articulation	moderate	therapy
Hanson, Sharleen	voice	moderate	recheck
Hauschildt, Diane	articulation-voice	moderate	recheck
Miller, Patsy	articulation	moderate	recheck
Nelson, Gregory	articulation	moderate	therapy
Steele, Richard	voice	moderate	recheck
Thoner, Danny	articulation-voice	moderate	therapy
Truttman, Roxanne	articulation	moderate	recheck

School Lindgren

Grade 6

Teacher Flora Dickie

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Hager, Marie	articulation	moderate	recheck
Peterson, Duane	fluency	severe	therapy
Strand, Kenton	articulation	mild	recheck
Traynor, Betty	voice	mild	recheck

School Lindgren

Grade Opportunity Room

Teacher Zelda Keys

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anderson, David	articulation	moderate	recheck
Bach, Terry	articulation	severe	therapy
Brekke, Deno	articulation	moderate	recheck
Falkner, Marian	voice	mild	recheck
Inabnit, Roy	articulation	severe	therapy
Jennings, Bob	articulation	moderate	recheck
Jonas, Ricky	articulation-voice	mild	recheck
Strom, Kristine	articulation	mild	recheck
Wiberg, Carmen	articulation-voice	moderate	recheck

School Ellsworth Junior High

Grade 7

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anderson, Joel	articulation	mild	recheck
Beebe, Lizbeth	articulation	mild	recheck
Bennett, Nancy	articulation	mild	recheck
Bloomstrand, Mary Lee	voice	moderate	recheck
Brekke, Dottie	articulation	mild	recheck
Brenner, Joan	voice	moderate	recheck
Chicquette, Jwff	articulation-voice	moderate	recheck
Davis, Leslie	articulation	mild	recheck
Devine, Joanne	articulation	moderate	recheck
Engeset, Cathy	articulation	mild	recheck
Erickson, Jeff	articulation	severe	therapy
Falkner, Ralph	articulation	mild	recheck
Fischer, Mary	voice	moderate	recheck
Gasset, Janice	voice	moderate	recheck
Geister, Gary	articulation-voice	moderate	recheck
Gore, Steven	articulation	mild	recheck
Gunderson, Nancy	articulation	moderate	recheck
Hageman, Lynn	articulation	mild	recheck
Hager, Jerome	articulation	moderate	recheck
Hanson, Terry	articulation-voice	moderate	recheck
Hardy, Barbara	articulation	moderate	therapy
Hauschildt, Patsy	articulation	mild	recheck

Grade 7 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Holt, Cindy	arriculation	mild	recheck
Hove, Terry	articulation	mild	recheck
Huppert, Vickie	articulation-voice	moderate	recheck
Jacobson, Carolyn	articulation	moderate	recheck
Johnson, Dixie	articulation	moderate	therapy
Johnson, Jennifer	articulation	moderate	recheck
Johnson, Neil	articulation	severe	therapy
Johnson, Priscilla	voice	moderate	recheck
Knutson, Dan	articulation	mild	recheck
Loberg, Anita	voice	moderate	recheck
Myer, Carol	voice	moderate	recheck
Nelson, Allan	articulation	mild	recheck
Nelson, Beverly	articulation	mild	recheck
Nelson, Ronald	articulation-voice	moderate	recheck
Northey, Karen	articulation-voice	moderate	therapy
Peterson, Waynette	articulation	mild	recheck
Powers, Brenda	articulation	moderate	recheck
Quist, Wallace	articulation	mild	recheck
Reeck, Kay	articulation	mild	recheck
Schulte, David	articulation	mild	recheck
Sears, Gary	articulation	moderate	recheck
Seifert, Jean	articulation-voice	moderate	recheck
Stai, Terry	articulation	mild	recheck
Svec, Jodean	articulation	mild	recheck

Grade 7 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Truttman, Bonita	articulation	moderate	recheck
Walz, Christine	articulation	severe	therapy

School Ellsworth Junior High

Grade 8

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Beckler, Daniel	fluency	moderate	therapy
Birkel, Mary	articulation	mild	recheck
Burt, Karen	articulation-voice	moderate	recheck
Christenson, Alice	articulation	moderate	therapy
Christopherson, Donald	voice	moderate	recheck
Christopherson, Lanette	articulation	mild	recheck
Christopherson, Ross	fluency	severe	therapy
Clark, Perry	articulation	mild	recheck
Coulson, Trudy	articulation	mild	recheck
Cummings, Sharon	articulation	moderate	recheck
Dahl, Gregg	articulation	moderate	recheck
Devine, Dick	voice	moderate	recheck
Dietzler, Sally	articulation	mild	recheck
Fellman, Peter	articulation	mild	recheck
Florness, David	articulation	mild	recheck
Funk, Marthene	articulation	mild	recheck
Gipford, Harold	articulation	mild	recheck
Gutzman, David	articulation-voice	moderate	recheck
Hanson, Craig	articulation-voice	moderate	recheck
Hanson, Dennis	articulation	mild	recheck
Hayner, Danny	articulation	mild	recheck
Hewitt, Edward	articulation	mild	recheck

Grade 8 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Hines, Marilyn	articulation	mild	recheck
Johnson, Lynn	articulation	mild	recheck
Kamrath, Fred	articulation	mild	recheck
Kiefer, Terry	voice	moderate	recheck
Klecker, Barney	articulation-voice fluency	moderate	therapy
Kline, Billy	articulation	mild	r4check
Koopman, Richard	articulation-voice	moderate	recheck
Langer, Rita	articulation	mild	recheck
Larson, Terry	articulation	moderate	recheck
Lother, Rita	articulation	mild	recheck
Lundgaard, Leroy	articulation	mild	recheck
Mallan, Delores	fluency artciulation-voice	moderate	therapy
Nelson, Marlys	articulation	moderate	recheck
Nelson, Sally	articulation	mild	recheck
Olson, Jeannie	articulation	mild	recheck
Olson, Rose Marie	articulation-voice	moderate	recheck
Peterson, Brian	articulation	mild	recheck
Raechke, Diane	articulation	mild	recheck
Sarnstrom, Mavis	articulation	moderate	recheck
Schmidt, Margaret	articulation	moderate	recheck
Schroeder, Karen	articulation-voice	moderate	recheck
Stern, Rita	voice	moderate	recheck
Swanson, James	articulation	mild	recheck

Grade 8 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Swanson, Lee	fluency-articulation	severe	therapy
Thoner, Jeannie	articulation-voice	moderate	recheck
Whitcomb, Jan	voice	moderate	recheck
Wilkens, Lorin	voice	moderate	recheck

School Ellsworth Junior High

Grade 9

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Bartlett, Dorothy	articulation	mild	recheck
Beardsley, Trudy	articulation	mild	recheck
Books, Marilyn	articulation-voice	moderate	therapy
Borst, Jeanette	articulation	mild	recheck
Brekke, Susan	articulation	mild	recheck
Brenner, Barry	articulation	mild	recheck
Brenner, Betty	articulation	mild	recheck
Campbell, Marilyn	articulation-voice	moderate	recheck
Claflin, Deanna	articulation	moderate	recheck
Christianson, Sarah	articulation	mild	recheck
Christopherson, Gene	articulation	mild	recheck
Christopherson, Sharon	articulation-voice	moderate	recheck
Cook, Barbara	articulation	moderate	therapy
Cook, Ray	articulation	mild	recheck
Davidson, James	articulation	mild	recheck
Dougherty, Joe	articulation	mild	recheck
Erickson, Larry	articulation	mild	recheck
Feuerhelm, Lonnie	voice	moderate	recheck
Fick, Rose Ann	articulation	mild	recheck
Finstead, Dennis	articulation-voice	moderate	recheck
Freier, Fern	articulation	mild	recheck
Gutting, Barbara	articulation	mild	recheck
Haarstad, John	articulation	moderate	recheck

Grade 9 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Hager, Michael	voice	moderate	recheck
Hauschildt, Kathy	articulation	mild	recheck
Hines, Jane	articulation-voice	moderate	recheck
Huppert, Kevin	voice	moderate	recheck
Johnson, Linda	voice	moderate	recheck
Johnson, Ronny	articulation	mild	recheck
Kenall, Charles	voice	moderate	recheck
Klecker, Edith	voice	moderate	recheck
Klecker, Ellen	voice	moderate	recheck
Kline, Barbara	voice	moderate	recheck
Larson, David	articulation	moderate	recheck
Larson, James	articulation	moderate	recheck
Laughnan, Faye	voice	moderate	recheck
Lundgaard, Susan	arriculation	mild	recheck
Lundquist, Richard	voice	moderate	recheck
Mallan, Charlotte	voice	moderate	recheck
Nelson, Alice	articulation	mild	recheck
Nelson, DeWayne	articulation	mild	recheck
Olson, Charlotte	articulation	mild	recheck
Pearson, Jim	voice	moderate	recheck
Peterson, LaCinda	voice	moderate	recheck
Peterson, Tommy	voice	moderate	recheck
Place, Karen	articulation-voice	moderate	recheck
Sarnstrom, Audrey	voice	moderate	recheck

Grade 9 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Schmidt, Jim	voice	moderate	recheck
Sparr, Charles	articulation	mild	recheck
Swanson, Barbara	articulation-voice	moderate	therapy
Thom, Kathleen	articulation	mild	recheck
Thorie, Kevin	fluency	moderate	recheck
Trok, Jack	articulation	moderate	recheck
Webster, James	articulation	mild	recheck
Wilkens, Harry	voice	moderate	recheck
Yanisch, Gregg	articulation	mild	therapy

School Maiden Rock

Grade 1

Teacher Madelyn Brown

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Fosberg, Randy	articulation-voice	severe	therapy
Gehlbar, Douglas	articulation	mild	recheck
Hager, Paul	articulation	moderate	recheck
Hanson, David	voice	moderate	recheck
Johnson, David	voice	moderate	recheck
Johnson, Dean	articulation	moderate	recheck
Nyland, Duane	articulation	moderate	recheck
Reich, Laurel	articulation	mild	recheck

School Maiden Rock

Grade 2

Teacher Frances White

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Kreye, Jeffrey	articulation	mild	recheck
Longsdorf, Linda	articulation	moderate	recheck

Grade 3

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Clifford, Betty	articulation	moderate	recheck
Duden, Jack	articulation-voice	moderate	recheck
Forseth, Linda	articulation	mild	recheck
Fosberg, Beverly	articulation-voice	moderate	recheck
Foss, Richard	voice	moderate	recheck

School Maiden Rock

Grade 4

Teacher Mildred Julian

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Andrews, Julie	articulation-voice	moderate	recheck
Carlson, Scott	articulation	mild	recheck
Clark, Kathleen	articulation	moderate	recheck
Conroy, Kathy	articulation-voice	moderate	therapy
Fleming, Diane	voice	moderate	recheck
Foss, Randy	articulation	moderate	recheck
Glaus, Kathy	voice	moderate	recheck
Nelson, Ann	articulation	moderate	recheck
Strand, Karen	articulation	moderate	recheck
Walsingham, Jack	articulation	moderate	recheck

Grade 5

Conroy, Thomas	articulation-voice	moderate	recheck
Holden, Danny	articulation	mild	recheck
Johnson, Teresa	articulation	moderate	recheck
Rodewald, Ricky	articulation-voice	moderate	recheck

School Maiden Rock

Grade 5

Teacher Mrs. Lydia Berktold

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anderson, Dorothea	voice	severe	therapy
Florness, Laurie	articulation-voice	moderate	recheck
Powers, Rita	articulation-voice	moderate	recheck
Torseth, Wendy	voice	moderate	recheck

Grade 6

Anderson, Jerry	voice	moderate	recheck
Conroy, Michael	voice	moderate	recheck
Fleming, Greg	articulation-voice	moderate	recheck
Gore, Gerald	articulation	mild	recheck
Holden, June	articulation	moderate	recheck
Julian, Rita	articulation-voice	moderate	recheck
McCrae, Lila	articulation-voice	moderate	recheck
Nelson, Kay	voice	mild	recheck
Regelman, Alverne	articulation-voice	moderate	recheck
Sjostrom, Lynette	articulation	moderate	recheck

School Prairie View

Grade 1

Teacher Charlotte Baumgartner

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anderson, Brian	articulation	mild	recheck
Bach, Melvin	articulation	moderate	recheck
Bach, William	articulation	severe	therapy
Baker, Roger	articulation	severe	recheck
Bartz, Sheryl	voice	moderate	recheck
Glines, Linda	articulation	moderate	recheck
Hardy, Delbert	articulation	moderate	recheck
Hinz, Lester	articulation	moderate	recheck
Hoffman, John	articulation-voice	moderate	recheck
Kinneman, Galen	articulation	mild	recheck
Magneson, Barbara	articulation-voice	moderate	recheck
Oberg, Jay	articulation-voice	moderate	recheck
Quam, Patty	articulation	moderate	recheck

Grade Kindergarten

Falkner, Stanley	articulation	severe	therapy
Kinneman, Debbie	articulation	moderate	recheck
Strusz, Jeffrey	articulation	severe	therapy

School Prairie View

Grade 1

Teacher Helen Nesseth

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anderson, Barbara	voice	moderate	recheck
Brenner, Daniel	articulation	mild	recheck
Flynn, Glen	articulation	mild	recheck
Hygnstrom, Scott	voice	moderate	recheck
Nelson, Dale	articulation	moderate	recheck
Olson, Bradley	voice	moderate	recheck
Strusz, Michael	articulation	severe	therapy

Grade 2

Vanderberg, Michail	articulation-voice	moderate	recheck

School Prairie View

Grade 2

Teacher Mabel Swanson

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Amacher, James	articulation	mild	recheck
Anderson, Darlene	articulation-voice	moderate	recheck
Bach, Shannon	articulation	mild	recheck
Dougherty, Susan	voice	moderate	recheck
Earney, Patricia	articulation-voice	moderate	recheck
Hall, Kim	voice	moderate	recheck
Hanson, Steven	voice	severe	recheck
Holdorf, Mark	articulation-voice	moderate	recheck
Johnson, Cinthia	voice	moderate	recheck
Lindquist, Steven	articulation	mild	recheck
Olson, Frederick	articulation	mild	recheck
Swanson, Wanda	voice	moderate	recheck

School Prairie View

Grade 3

Teacher Evelyn Johnson

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anway, Mark	articulation	mild	recheck
Bach, Mary Jo	voice	moderate	recheck
Brekke, Dallas	articulation	moderate	recheck
Dietzler, Terence	articulation	moderate	recheck
Dosdall, Frank	articulation-voice	moderate	recheck
Enberg, Donald	articulation-voice	moderate	recheck
Johnson, Roxane	articulation	moderate	recheck
Lindquist, Michael	articulation-voice	moderate	recheck
Matson, Diane	articulation-voice	moderate	recheck
Schriever, John	voice	moderate	recheck
Stockwell, Arlene	articulation	moderate	recheck

School Prairie View

Grade 4

Teacher Mrs. Vinge

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Christiansen, Keith	voice	moderate	recheck
Dodge, Debbie	articulation	moderate	recheck
Earney, Bonita	voice	moderate	recheck
Hoffman, Betty	articulation	mild	recheck
Pearson, John	articulation	moderate	recheck
Sprick, Rodney	articulation-voice	moderate	recheck
Taylor, Peggy	articulation-voice	moderate	recheck

School Prairie View

Grade 4

Teacher Ardith Christenson

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Allyn, Susan	articulation-voice	moderate	recheck
Anderson, Craig	voice	severe	recheck
Berg, Jody	articulation	moderate	recheck
Brown, Kelly	articulation	moderate	recheck
Edgington, Bertha	voice	moderate	recheck
Gifford, Judy	voice	moderate	recheck
Holt, Mark	voice	severe	recheck
McHardy, Robert	voice	moderate	recheck
Smith, Jacqueline	articulation-voice	moderate	recheck
Vigen, Dale	articulation	severe	therapy
Wilkins, Calvin	voice	moderate	recheck

School Prairie View

Grade 5

Teacher Doris Gerdes

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Bany, Paul	voice	mild	recheck
Brown, Tom	voice	moderate	rechedk
Gardas, Lori	voice	mild	recheck
Gilbertson, Steven	articulation	mild	recheck
Hardy, Susan	articulation	moderate	recheck
Johnson, Beverly	articulation-voice	moderate	recheck
Johnson, Rita	articulation-voice	moderate	recheck
Pearson, James	articulation	mild	recheck
Wiberg, Duane	articulation	mild	recheck
Welt, Jill	voice	moderate	recheck

School Prairie View

Grade 6

Teacher Arnold Falkofske

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Baker, Joan	articulation	moderate	recheck
Barsness, Wayne	articulation	mild	recheck
Bergo, Mary	voice	moderate	recheck
Bloomquist, Janette	articulation	moderate	recheck
Brunkhorst, Ann	articulation	mild	recheck
Gifford, Janice	articulation-voice	moderate	recheck
Harding, Alice	voice	moderate	recheck
Hoffman, Howard	articulation-voice	moderate	recheck
Langer, Dale	voice	moderate	recheck
Strusz, Susan	articulation	mild	recheck
Wilkins, Fred	voice	moderate	recheck

School Sunnyside

Grade 1

Teacher Catherine Steiner

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Billeter, Roger	articulation-voice	severe	therapy
Boe, Julene	articulation	moderate	recheck
Bowen, Tom	articulation	severe	therapy
Carpenter, Rickey	articulation	moderate	recheck
Christenson, David	articulation-voice	moderate	recheck
Falde, Peter	articulation	moderate	recheck
Foley, Julie	articulation	moderate	recheck
Gutting, Glen	articulation-language	severe	therapy
Hines, Steven	articulation-voice	moderate	recheck
Janisch, Barbara	articulation-voice	moderate	recheck
Klecker, Thomas	articulation-voice	severe	therapy
Langer, Allen	articulation-voice	moderate	recheck
Langer, Annette	articulation-voice	moderate	recheck
Marks, Sonia	voice	moderate	recheck
Palmquist, Beulah	voice	mild	recheck
Schaar, Pamela	articulation	severe	therapy
Smith, Fred	articulation-voice	severe	therapy
Winger, Julie	articulation	moderate	recheck

School Sunnyside

Grade 2

Teacher Alice Bauer

STUDENTS NAME	PROBLEM	SEVERITY	RECOMMENDATION
Bowen, Rosetta	voice	moderate	recheck
Brown, Debra	articulation	moderate	recheck
Bulmer, Sonia	articulation-voice	moderate	recheck
Coyer, James	articulation	mild	recheck
Hines, Brenda	articulation	moderate	recheck
Kiefer, Scott	articulation	moderate	recheck
Kiefer, Steven	voice	moderate	recheck
Murray, Beth	articulation	moderate	therapy
Polk, Sally	articulation	moderate	recheck
Truesdill, Ronald	articulation	moderate	recheck
Wiff, Timothy	voice	moderate	recheck
Yanisch, Julie	fluency	moderate	recheck

School Sunnyside

Grade 3

Teacher Gertrude Fellenz

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Bulmer, James	articulation	moderate	therapy
Christopherson, Mark	fluency	severe	therapy
Foley, Michael	voice	moderate	recheck
Gavin, Elizabeth	articulation-voice	moderate	recheck
Hanson, Palmer	articulation-voice	moderate	therapy
Hines, Linda	articulation	moderate	recheck
Hines, Mary	articulation	moderate	recheck
Nelson, Corey	articulation-voice	moderate	therapy
Wodarczuk, Mark	articulation	moderate	recheck
Yanisch, Celeste	articulation-voice	moderate	therapy

School Sunnyside

Grade 4

Teacher Lillian Webster

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Bowen, David	voice	moderate	recheck
Christopherson, Pauline	articulation	moderate	recheck
Cook, JoAnne	articulation	moderate	recheck
Cummings, Gloria	articulation	moderate	recheck
Ely, Douglas	articulation-voice	moderate	recheck
Hague, Margaret	voice	moderate	recheck
Hillman, James	articulation-voice	moderate	recheck
Johnson, Janeane	articulation	severe	therapy
Kamrath, Charles	articulation	moderate	recheck
Miller, Cheryl	articulation	moderate	recheck
Peterson, Angela	articulation-voice	severe	therapy
Peterson, Gregory	articulation	severe	therapy
Peterson, Roberta	voice	moderate	recheck
Wodarcryk, Leonard	articulation	moderate	recheck

School Sunnyside

Grade 5

Teacher Margaret Skrutvold

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Cook, Stephan	articulation	mild	recheck
Doornink, Darryl	voice	moderate	recheck
Falde, Nola	articulation-voice	moderate	recheck
Kallas, Peggy	voice	moderate	recheck
Langer, Gregory	articulation-voice	moderate	recheck
Larson, Debra	articulation	mild	recheck
Nelson, Rodney	articulation	mild	recheck
Polk, Toni	articulation-voice	moderate	recheck
Schladweiler, James	articulation	severe	therapy
Siefert, Jennifer	articulation-voice	severe	therapy

School Sunnyside

Grade 6

Teacher Verna Broen

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Bowen, Joann	articulation	moderate	recheck
Foley, Richard	articulation	mild	recheck
Fritz, Patrick	articulation	severe	therapy
Gunderson, Randy	articulation	moderate	therapy
Hines, Carol	articulation	moderate	therapy
Hines, Donald	voice	moderate	recheck
Janisch, Barbara	articulation	moderate	recheck
Johnson, Cynthia	articulation	moderate	recheck
Klecker, Ruth	voice	severe	therapy
Kline, Charles	articulation	mild	recheck
O'Brien, William	articulation-voice	moderate	recheck
Peterson, Daniel	articulation	moderate	recheck

School Ellsworth High School

Grade 10

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anderson, Judy	articulation	moderate	therapy
Anderson, Robert	articulation	mild	therapy
Barnes, John	articulation	mild	recheck
Barnes, Kathy	voice	moderate	recheck
Barnes, Mary	voice	moderate	recheck
Bauer, Ruth	articulation	mild	recheck
Beebe, David	articulation	moderate	therapy
Buck, Melanie	articulation	mild	recheck
Carlson, Carol	articulation	mild	recheck
Claflin, Frank	articulation-voice	moderate	recheck
Cook, Torri	articulation	mild	recheck
Dietzler, Thomas	articulation	mild	recheck
Dodge, Charles	articulation	mild	recheck
Doolittle, Brian	articulation	mild	recheck
Dougherty, Judy	voice	moderate	recheck
Douglas, Nancy	articulation-voice	moderate	recheck
Fischer, Daniel	articulation	moderate	therapy
Freier, Aleta	articulation-voice	moderate	recheck
Gavin, Francis	voice	moderate	recheck
Glass, Lana	articulation-voice	moderate	recheck
Glaus, Gary	voice	moderate	recheck
Graetz, Charles	voice	moderate	recheck
Gutting, Judy	articulation	mild	recheck
Hager, Douglas	articulation	moderate	recheck

Grade 10 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Halverson, Francis	articulation	moderate	recheck
Hanson, Judith	articulation	mild	recheck
Hanson, Linda	voice	moderate	recheck
Hanson, Linda Sue	articulation	mild	recheck
Hauschildt, Susan	articulation	mild	recheck
Hines, Patrick	voice	moderate	recheck
Hines, Roger	articulation	mild	recheck
Huber, Jackie	articulation	mild	recheck
Huppert, Rose Mary	articulation	mild	recheck
Jensen, Linda	articulation-voice	moderate	therapy
Johnson, Judy	voice	moderate	recheck
Johnson, Renee	articulation	mild	recheck
Johnson, Steven	articulation	mild	recheck
Johnson, Steven R.	articulation	moderate	recheck
Jones, Barbara	articulation	mild	recheck
Klein, Wally	articulation	mild	recheck
Klopf, Philip	articulation	moderate	therapy
Leonard, Michael	articulation	mild	recheck
Linder, Dennis	articulation-voice	moderate	recheck
Lundgaard, Arlen	articulation	moderate	recheck
Matzek, Norman	voice	moderate	recheck
O'Brien, Donna	articulation	mild	recheck
Odden, Marie	articulation	mild	recheck
Pechacek, Delores	voice	moderate	recheck
Peterson, Joy	articulation	moderate	therapy

Grade 10 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Peterson, Michael	voice	moderate	recheck
Place, Barry	articulation	mild	recheck
Poston, Gailynn	voice	moderate	recheck
Quist, Donna	voice	moderate	recheck
Rice, Beverly	articulation	moderate	therapy
Rice, Richard	articulation-fluency	moderate	recheck
Ryden, Jackie	articulation	moderate	recheck
Schroeder, Debby	articulation	mild	recheck
Seifert, Michael	articulation	moderate	recheck
Steien, Philip	voice	moderate	recheck
Struve, James	articulation-voice fluency	moderate	therapy
Theis, Jacqueline	articulation	mild	recheck
Trok, Randy	voice	moderate	therapy
Wirth, Joyce	articulation	mild	recheck

School Ellsworth Senior High

Grade 11

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Allyn, Joan	voice	moderate	recheck
Anderson, Maurice	articulation	moderate	therapy
Arndt, Jean	articulation-voice	moderate	recheck
Baker, Bette	articulation	mild	recheck
Bauer, Alan	articulation	moderate	therapy
Behrens, Victor	voice	moderate	recheck
Bergo, William	articulation	mild	recheck
Brookshaw, William	articulation	mild	recheck
Christensen, Nancy	articulation	mild	recheck
Cobian, Mary	articulation	mild	recheck
Coulson, Michael	articulation-voice	moderate	recheck
Coyer, Eugene	articulation	mild	recheck
Davidson, Paul	voice	moderate	recheck
Dosdall, Darlene	articulation-voice	moderate	recheck
Ely, Phillip	articulation-voice	moderate	therapy
Falde, Lowell	articulation	mild	recheck
Fink, Jody	voice	severe	therapy
Fulton, Shirley	articulation	mild	recheck
Gutting, Joe	articulation	mild	recheck
Helmer, Dorothy	voice	moderate	recheck
Hines, Jerome	articulation	mild	recheck
Hove, Barry	articulation	mild	recheck
Huber, John	articulation	mild	recheck

Grade 11 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Huppert, Patricia	articulation	mild	recheck
Johnson, Dennis R.	articulation	mild	recheck
Johsnon, Eugene	articulation	mild	recheck
Kinneman, Yvonee	articulation-voice	moderate	recheck
Klecker, Nancy	voice	moderate	therapy
Kline, Bonnie	articulation	moderate	recheck
Kreye, Margery	articulation	mild	recheck
Langer, James	articulation-voice	moderate	therapy
Linder, Kay	voice	moderate	recheck
Meyer, Linda	articulation	mild	recheck
Miller, Joseph	articulation	mild	recheck
Myer, Michael	voice	moderate	recheck
Nelson, Nancy	articulation	mild	recheck
Nelson, Wayne	articulation-voice	moderate	recheck
Northey, Dorothy	articulation	moderate	therapy
Oberg, Peggy	voice	mild	recheck
Oftedahl, Lorene	articulation	mild	recheck
Peterson, Linda	articulation	mild	recheck
Padkey, Julie	articulation	moderate	recheck
Ritchie, Walter	articulation-voice	moderate	therapy
Savage, Wanda	articulation	mild	recheck
Steiner, Kathy	articulation	mild	recheck
Stoetzel, Patricia	articulation	mild	recheck

Grade 11 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Strand, Vaughn	articulation	mild	recheck
Swanson, Robert	articulation-hearing	moderate	recheck
Wirth, Dolores	articulation	mild	recheck
Wood, Janet	articulation	mild	recheck

School Ellsworth Senior High

Grade 12

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Anderson, Gaynelle	voice	moderate	recheck
Anderson, Gerald	articulation-voice	moderate	recheck
Auchampach, William	articulation	moderate	recheck
Bang, Robert	articulation-voice	moderate	recheck
Bergo, Anna	articulation	mild	recheck
Blaisdell, Margery	articulation	moderate	recheck
Borst, Michael	articulation	mild	recheck
Brandt, Sally	articulation	moderate	recheck
Brickner, Bruce	articulation	mild	recheck
Buckner, Nancy	articulation	mild	recheck
Christenson, Roger	articulation-voice	moderate	recheck
Cook, Yvonne	articulation	mild	recheck
Doolittle, Renee	articulation-voice	moderate	recheck
Dopkins, David	articulation	mild	recheck
Dopkins, Donald	articulation	moderate	therapy
Dougherty, James	articulation	mild	recheck
Dougherty, Patricia	voice	moderate	recheck
Ducklow, Alice	articulation	mild	recheck
Fischer, Leona	articulation	mild	recheck
Foley, James	articulation-voice	moderate	recheck
Freier, Nancy	articulation	moderate	therapy
Gardner, Karen	articulation-voice hearing	moderate	therapy

Grade 12 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Gavin, David	articulation-voice	moderate	therapy
Glaus, Bonita	articulation	mild	recheck
Hall, Bernadette	articulation	moderate	recheck
Hanson, Diane	articulation	moderate	therapy
Hanson, Jerome	articulation	mild	recheck
Hayner, Cheryl	articulation	mild	recheck
Hendrickson, Judith	articulation	mild	recheck
Hines, Anita	articulation	moderate	recheck
Huppert, Dianne	articulation	moderate	recheck
Ingli, Gerald	articulation	moderate	therapy
Jilt, Judith	articulation	moderate	therapy
Johnson, Beverly	articulation	mild	recheck
Johnson, Carol	articulation	mild	recheck
Johnson, Judy	articulation	mild	recheck
Klecker, Art	articulation	moderate	recheck
Larson, Leah	articulation-voice	moderate	recheck
Larson, Lee	articulation	mild	recheck
Meacham, LoAnne	voice	moderate	recheck
Murphy, Douglas	voice	moderate	recheck
Nelson, Gary	articulation	mild	recheck
Nelson, Judith	voice	moderate	recheck
Odalen, Roger	voice	moderate	recheck
Olson, Dale	articulation	mild	recheck
Pearson, Rodney	articulation	moderate	therapy

Grade 12 (continued)

STUDENT'S NAME	PROBLEM	SEVERITY	RECOMMENDATION
Peterson, Ronald	articulation	mild	recheck
Ray, Kathy	articulation	mild	recheck
Schlichting, Janet	articulation	mild	recheck
Schuh, Duane	articulation	mild	recheck
Schulte, Larry	voice	moderate	recheck
Soden, Barbara	articulation	mild	recheck
Spriggle, Sandra	articulation	mild	recheck
Steien, Karen	articulation	mild	recheck
Stenberg, Karen	articulation	mild	recheck
Strom, Cheryl	voice	moderate	recheck
Sumter, Karen	articulation	mild	recheck
Swandby, Paul	articulation-voice	moderate	recheck

CHECK LIST OF TYPES OF SPEECH DISORDERS

I. ARTICULATION

The student substitutes one speech sound for another, omits sounds, adds sounds or distorts sounds.

Examples:

HEP for HELP
LIDE for SLIDE
SEEP for SLEEP
IDEAR for IDEA
TOP for STOP
GAS for GLASS
CO for COLD
CHINER for CHINA

Th for S -- YETH for YES
D for T -- DEN for THEN
W for L -- YEWO for YELLOW
W for R -- WED for RED
D for Th - DIS for THIS

also, lisps
whistling S
sloppy speech

II. FLUENCY OR RHYTHM

- Stammering
- Stuttering
- Cluttering
- Too Slow
- Too Fast
- Hesitant or Non-fluent
- Jerky

III. VOICE

Pitch
- Too high
- Too low
- Monotone
- Pitch Breaks
- Stereotyped pitch pattern

Intensity
- Too loud
- Too soft
- Stereotyped intensity pattern

Quality
- Hoarseness
- Huskiness
- Nasal
- Harsh
- Strident
- Breathiness
- Falsetto

IV. LANGUAGE OR SYMBOLIZATION

Delayed Speech - has difficulty using language appropriate for his age.

V. SPECIALIZED PROBLEMS

- Cleft Palate
- Deafness
- Cerebral Palsy
- Foreign Language or Bilingual

TO:________________________________

FROM: Elizabeth Oostendorp

SUBJECT: Speech in the Ellsworth School system

In accordance with the suggestions made by the committee on curriculum co-ordination, I am sending each teacher in the system a questionnaire concerning speech education in the Ellsworth Community Schools. I have included two sections in this questionnaire. The first has to do with general speech training. I am hoping to determine how much speech training a student receives in his school years in the Ellsworth system. The second section has to do with speech therapy and the speech problems which you encounter in your classrooms. In addition, I am enclosing a check list of speech disorders which I hope will help you to classify problems which your students have in this area. I would appreciate your returning the questionnaire to me at the junior high school by next Monday, March 23, 1964. I hope you will keep the check list for your future use.

1. In how many formal speaking situations do your students participate in
   a) a week?________
   b) a month?________
   c) a year?________
   (Please answer in the space most appropriate for your classroom or class.)

2. What are the nature of these formal speaking situations? Are they formal speeches, panel discussions, group discussions, oral reports, etc.? Please explain.

3. In what class or classes and in what grade are these formal speaking situations?

   Class______________________Grade____________Size of Class__________

   Class______________________Grade____________Size of Class__________

   Class______________________Grade____________Size of Class__________

4. Do you evaluate these performances in terms of speaking ability?_____

5. Do you have any students in your class(es) who refuse to participate in speaking situations -- either formal or informal?__________

6. If you have answered YES to the above question, would you please list the student's name and the reason for his refusal if you know any.

7. If you do any oral work in your classroom that you feel would aid in a student's speech education and has not been covered in my questions, would you please briefly explain the work in the space below?

Often there are students in the classroom who demand extra help with their speech. Many of these students would derive benefit from speech therapy though most classroom teachers are not trained for this special education and do not have the time to devote to the few students needing help. I am trying in this section of the questionnaire to discover how many students we have in the school system who are in need of this special help. Charles VanRiper, a noted speech pathologist, has made the following statement which may help you in identifying a speech handicapped student:

> "Speech is defective when it deviates so far from the speech of other people that it calls attention to itself, interferes with communication or causes its possessor to be maladjusted."

1. How many students do you have whom you feel have speech problems?_____
2. How many students do you have who are difficult to understand?________
3. Do you have any students who have been diagnosed as mentally retarded or who have emotional problems?_____If so, how many?________
4. How many students do you have whose speech attracts unfavorable attention?_______
5. How many students are difficult to hear in class?________
6. How many appear to be self-conscious about their speech?________
7. How many students do you have who are deaf or having a hearing loss?___
8. If a speech therapist were available, how many students would you refer to him? If you are not sure whether or not a child has a speech problem, include him in this survey anyway. It would be better to refer too many students than to pass over a child who can profit from speech training.___________

Would you list those students for me in the following chart? It would be of great benefit if you could give some indication as to the type of problem the student has. Perhaps the enclosed check list could be of help to you here. Include the name even if you can't classify the problem.

NAME	GRADE	AGE	NATURE OF PROBLEM

A DAY AT THE FARM

My mother and I went to the farm. Sally did not go. She had to go to school. Mother drove the car. It was a red Dodge. When we got to the farm, we were hungry. But grandma did not have dinner ready. So we helped Mother set the table. We looked for some jelly. Grandma cooked the eggs...three of them. I put some bread and butter on the table. Soon dinner was ready. We sat down. We gave thanks for our food. We ate and ate. Grandma was glad we came. We stayed all day.

One day Jim was looking out the kitchen window.

"Mary," he called, "Father is coming in the front door with a big white box."

"I have something to show you," said Mr. Jones.

"Is the box for us?" they both cried.

When he took the paper off they saw it was a red doll house.

Jim said, "There are some people in it. The man is reading and the woman is washing a baby."

"She looks like Mrs. Green," Mary said.

"Do you see the girl in the play room?"

Mary saw the girl was sitting on a large ball.

Just then Mother came in. Mary and Jim said, "Look at the pretty toys Father gave us. Thank you very much for them."

Arthur, the Young Rat

Once, a long time ago, there was a young rat named Arthur who could never make up his flighty mind. Whenever his swell friends used to ask him to go out to play with them, he would only answer airily, "I don't know." He wouldn't try to say yes, or no either. He would always shirk from making a specific choice.

His proud Aunt Helen scolded Him: "Now look here," she stated, "no one is going to aid or care for you if you carry on like this. You have no more mind than a stray blade of grass."

That very night there was a big thundering crash and in the foggy morning some zealous men-with twenty boys and girls-rode up and looked closely at the fallen barn. One of them slipped back a broken board and saw a squashed young rat, quite dead, half in and half out of his hole. Thus, in the end the poor shirker got his just dues. Oddly enough his Aunt Helen was glad. "I hate such oozy, oily sneaks," said she.

Articulation Test
Speech and Hearing Clinic - Wisconsin State University - River Falls

Name ______________________ Sex __ CA ____ Grade _____ Date ____________

School ____________________ Teacher ________________ Tester ____________

Card	Age	Sound	Check Words	I	M	F
1	3	m	monkey, hammer, broom			
2	3	n	nails, penny, lion			
3	3	p	pig, puppy, cup			
4	3	h	house, dog-house, ---			
5	3	w	window, spider-web, ---			
6	4	b	boat, baby, bib			
7	4	k	cat, chicken, book			
8	4	g	girl, wagon, pig			
9	4	f	fork, telephone, knife			
10	5	j	yellow, onion, thank-you			
11	5	ŋ	----, fingers, ring			
12	5	d	dog, ladder, bed			
13	6	l	lamp, balloon, ball			
14	6	r	rabbit, barn, car			
15	6	t	table, potatoes, coat			
16	6	ʃ	shoe, dishes, fish			
17	6	tʃ	chair, matches, watch			
18	6	r bl.	drum, crayons			
18	6	l bl.	clock, blocks, glasses			
19	7	v	vacuum, television, stove			
20	7	θ	thumb,toothbrush, teeth			
21	7	dʒ	jumprope,orangejuice, orange			
22	7	s	sun, pencil, bus			
23	7	z	zebra, scissors, rubbers			
24	7	s bl.	star, slide, swing, spoon			
25	8	ð	this, that, feathers, ---			
26	8	s bl.	scooter, snowman, desk, nest			

Card	Sound	Check Word	
23	i	zebra	
3	ɪ	pig	
3	e	nails	
12	ɛ	bed	
7	æ	cat	
16	u	shoe	
7	ʊ	book	
6	o	boat	
12	ɔ	dog	
24	a ɑ	star	
9	aI	knife	
4	au	house	
18	ʌ	drum	
2	ə	lion	
-	ɔɪ	toy	
8	ɝ	girl	
1	ɚ	hammer	

INTELLIGIBILITY RATI

Connected Speech

____Readily intelligible

____Intelligible

____Intelligible from context

____Occasional single words

____Completely unintelligible

KEY FOR SYMBOLS

- omission of sound

/ substitution

D distortion

+ addition

✓ adequate production

Rating Key: 1 for slight; 2 for mild; 3 for moderate; 4 for moderate-severe; 5 for severe.

ARTICULATION

____Speech sounds
____Oral inactivity
____Slow, labored
____Rapid, slurring
____Articulation below age level
____Foreign dialect
____Regional dialect

VOICE QUALITY

____Nasal
____Denasal
____Breathy
____Harsh-strident
____Hoarse-husky
____Throaty-gutteral
____Weak, thin
____Tremorous

PITCH

____Above average
____Below average
____Exaggerated, uncontrolled
____Falsetto
____Monotonous

VOLUME

____Too loud
____Too soft
____Uncontrolled

RHYTHM

____Abnormal repetition of sounds
____Abnormal repetition of words
____Abnormal hesitations
____Speech blocks
____Cluttering, irregular rhythm

LINGUISTIC DEFECTS

____Speechlessness
____Confusion, search for words
____Cannot understand words
____Cannot write words
____Reading below grade or age level

COMMENTS:

GENERAL OBSERVATIONS

____Tics, facial grimaces
____Excessive stage fright
____Unusual posture or bodily movement
____Abnormally shy, unresponsive
____Belligerent, negativistic
____Bite: ___ over___ under___ open___ cross___
____Teeth: ___ missing ___malformed___ false___
____Organic defects (cleft lip, etc.)

____

EFFECTS OF STIMULATION

____Excellent
____Good
____Fair
____Poor

TYPE OF STIMULATIC

____imitation
____mild
____moderate
____strong

FAULTY SOUNDS CORRECTLY PRODUCED

________________________ in isolation

________________________ in nonsense

________________________ in familiar wor

FAULTY SOUNDS NOT CORRECTLY PRODUCED

________________________ in isolation

________________________ in nonsense

________________________ in familiar word

RECOMMENDATION

____Intensive therapy
____Therapy
____Recheck ________________________
____Speech Improvement
____Referral ________________________